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ISSUE!**

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steam
photos

ADVENTURES OF AN AMATEUR STATION AGENT p. 68

Classic Trains[®]

SUMMER 2022

THE GOLDEN YEARS OF RAILROADING

THE UNTOLD EMD STORIES

New insights into the
dominant diesel
builder of the
20th century



plus

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steam on
parade p. 58

New York City
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examined p. 56

The versatile
2-8-2 in
photos p. 78

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This Issue



On our cover
EMD shows off its new GP30 at parent GM's Warren, Mich., Technical Center. John S. Ingles, Brian M. Schmidt collection

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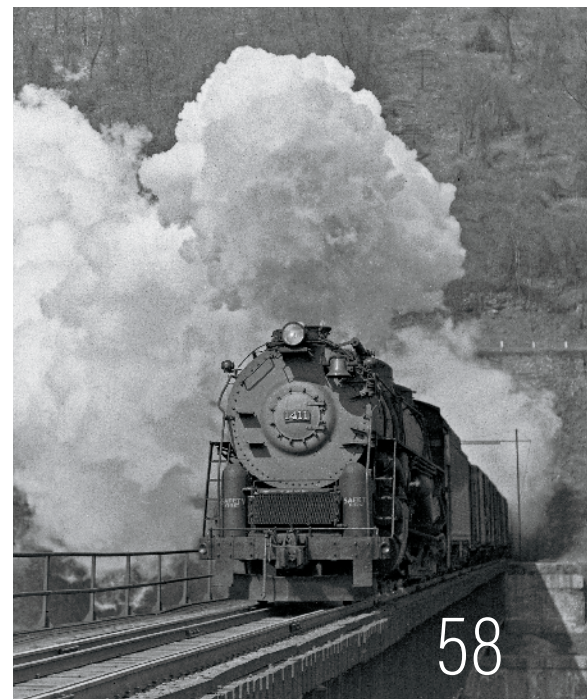
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100 years of locomotive innovations

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Get busy livin'

As we mourn the loss of our colleague and mentor Jim Wrinn (see page 6), it's hard to ignore some of the last — and best — advice he ever shared: Get busy livin'.

In my 10 years at TRAINS and CLASSIC TRAINS, I have been blessed with a number of fantastic experiences, from trips to Winterail to climbing over Metra's new Englewood Flyover in Chicago and through CSX Transportation's rebuilt Virginia Avenue Tunnel in Washington, D.C. One of the experiences I'm most grateful for is chasing Union Pacific Big Boy 4014 through the California and Nevada desert in April 2014 as it began its journey to Cheyenne for eventual restoration. Jim recognized this opportunity for a young assistant editor, too, and abdicated the first two days of the chase to me, an opportunity for which I will be eternally grateful.

While 4014 was not yet under steam, the crowds that it drew in West Colton, Victorville, and even isolated Kelso were nothing short of amazing. People packed in to see this miracle of history that enabled the UP to move millions of tons of wartime traffic on its transcontinental main line. While the people who worked on and among the Big Boys in revenue service are largely gone, this remarkable piece of engineering and railroad history will live on to inform future generations.

You can help, too. Get out there. Go experience railroading today, either as an enthusiast or railroader. And write down those life experiences. The future readers of this magazine will thank you for it.

Just get busy livin'.


EDITOR



Union Pacific Big Boy 4014 flies through the California desert near Kelso en route to Las Vegas and ultimately Cheyenne, Wyo., for restoration. This April 2014 day represents one of the absolute highlights of my time working for Jim Wrinn at TRAINS. Brian M. Schmidt



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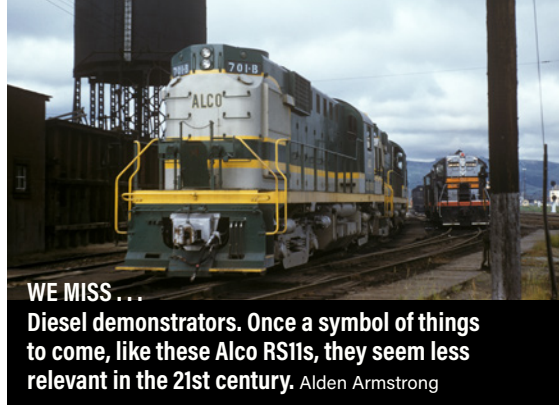
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A potpourri of railroad history, then and now

HeadEnd



WE MISS...

Diesel demonstrators. Once a symbol of things to come, like these Alco RS11s, they seem less relevant in the 21st century. Alden Armstrong



Bicentennial rebirth

Former Atchison, Topeka & Santa Fe Bicentennial SD45-2 5704 poses with a fresh coat of paint outside Mid-America Car at Kansas City, Mo., in March 2022. The locomotive was donated by BNSF Railway to the Southern California Railroad Museum at Perris. It was one of five units to wear the paint scheme in the mid-1970s to celebrate the American Bicentennial. Mid-America Car

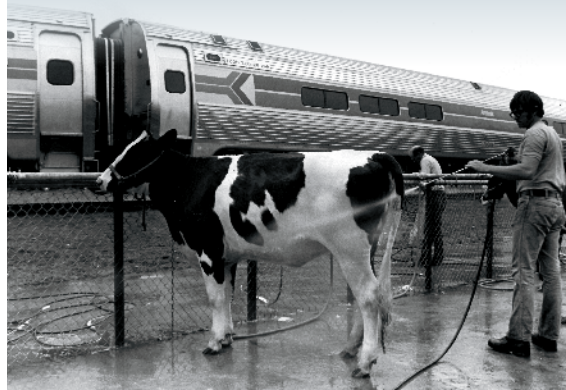


Say "cheese!"

Executives of General Motors and Southern Pacific look over the new Chevy Vega and its equally new dedicated Vert-a-pak auto rack. At left, however, GM Vice President for the Chevrolet Division John DeLorean (yes, *that* John DeLorean) appears more interested in getting some publicity than the automobiles themselves. A sign of things to come? Southern Pacific

Moo-ve over, Amfleet

The late 1970s were an exciting time in railroading as Amtrak's then-new Amfleet and Superliner fleets still seemed fresh and exciting. But at the Eastern States Exposition at West Springfield, Mass., one bovine stole the show from Amtrak's display train. We're sure its handler milked that for all it's worth. Scott A. Hartley



Jim Wrinn led TRAINS Magazine with passion

Editor, 61, dies after more than 17 years at helm of magazine

Jim Wrinn, who aspired since his youth to be the editor of TRAINS magazine and served in the role for more than 17 years, died at home on March 30, 2022, after a valiant 14-month battle with pancreatic cancer. He was 61.

Wrinn's longevity in the editor's role was second only to that of the legendary David P. Morgan, who led the magazine for more than 33 years and died in 1990 at age 62. Morgan's editorship and writings deeply influenced Wrinn, who began reading TRAINS in 1967 at age 6.

Wrinn oversaw numerous initiatives that took TRAINS in new directions, including expanded online news coverage; a series of podcasts; a large catalog of digital video programming; a robust schedule of TRAINS-branded railroad tours, excursions, and events; and numerous projects to support railroad preservation. His tenure included a gala celebration of the 75th anniversary of the magazine in Milwaukee in November 2015, attended by hundreds of loyal readers.

Becoming the editor of TRAINS was an idea planted by Wrinn's first college advisor, who in 1979 asked the young journalism student what his dream job would be. Wrinn's parents had already encouraged his railroad journalism by giving him a 35mm camera in 1977 and supporting numerous trips to see, ride, and photograph railroads.

James G. Wrinn was born March 21, 1961, in the mountain town of Franklin, N.C., and spent his childhood there. He studied journalism at the University of North Carolina-Chapel Hill, where he worked for the college newspaper, the Daily Tar Heel. After graduating he worked at daily newspapers in Gastonia, N.C., and Fayetteville, N.C., before joining the staff at The Charlotte Observer, one of the South's leading



Jim Wrinn on footboard of beloved Graham County Railroad Shay 1925 at North Carolina Railroad Museum in Spencer. Ron Flanary

newspapers, where he worked 1986-2004 in roles ranging from regional reporter to weekend city desk editor.

He also wrote or co-authored five railroad books, including "Steam's Camelot," a definitive history of the steam programs of the Southern Railway and successor Norfolk Southern.

Wrinn's first photo in TRAINS was published in the October 1982 issue, appropriately a news photo of Graham County Railroad Shay No. 1925, a touchstone locomotive throughout his life. His first byline appeared in December 1989, a news story about the effects of Hurricane Hugo on Southeastern railroads the previous September. He went on to write numerous features before joining the staff on Oct. 27,

2004, a significant date given TRAINS' (and Kalmbach's) celebrated address at 1027 N. Seventh Street in downtown Milwaukee.

His home state of North Carolina held a special place in Wrinn's heart, something he conveyed regularly to his readers. As a writer, he was never more touching than in his love letter to the former Southern Railway's famous Loops on the line between Old Fort and Ridgecrest, 13 miles of scenic but challenging railroad, now part of Norfolk Southern's Piedmont Division. His story "The Loops at Old Fort" appeared in the September 2006 issue.

Never content simply to observe from the journalistic sidelines, Wrinn was actively involved in railroad historical preservation, especially at the North Carolina Museum of Transportation in Spencer, where he volunteered since 1986. He recently served as a vice president at the North Carolina Transportation Museum Foundation.

Jim Wrinn was proud to be part of a long line of TRAINS editors and said so in a candid self-assessment published in 2009. "I could not write like Morgan," wrote Wrinn. "I could not be a diesel locomotive expert like Dave Ingles, I could not write as eloquently as Kevin P. Keefe, I could not be an industry insider like Mark Hemphill. But I could bring great enthusiasm to the job, a great love for the subject, and the passion and curiosity of a journalist. The other guys put together fantastic issues of TRAINS, but nobody ever had a better time in this job than me."

Wrinn is survived by his wife, Cate Kratville-Wrinn, their "raildog" Millie, numerous cousins, and many close friends whom he often said he considered to be the siblings or children he never had. — Kevin P. Keefe

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Blog

Read the biweekly blog by our columnist Kevin Keefe, who reflects on the places he's been, the people he's met, and how railroading's history impacts the industry today.



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Diesels That Didn't

Everyone knows the successes, but what about the locomotives that didn't make the grade? Read about more online!



GE passenger U-boats: Diesels that didn't

The U28CG and U30CG models did what they were designed for, but only for one railroad

The General Electric passenger U-boats

filled a niche in the 1960's locomotive market. Santa Fe, like many Class I railroads at the time, was still proud of its passenger service. But its roster of suitable diesel locomotives was getting old and any thought of Amtrak was still years away. Keeping its aging fleet of silver and red passenger diesels in good operating order was becoming more difficult by the trip. The Alco PAs and EMD Es and F3s were on their last legs, putting the burden on its fleet of F7 A and B units. The roster was becoming too small to adequately service the fleet and if several of them fell down at one time the railroad would be in a severe locomotive crunch.

Competitor railroads were in the same predicament. Union Pacific's fleet of E units was starting to get cranky. Supplementing them were several four-axle first-generation Geeps with steam generators. The railroad ordered many of its EMD GP30Bs with that accessory as well.

Southern Pacific was retiring its Alco PAs when they had major breakdowns and its small fleet of EMD FP7s was supplemented by some freight units equipped with boiler controls. Another small group of steam-generator equipped EMD GP9s was also available.

This mix-and-match approach

didn't especially appeal to Santa Fe management, and they searched for another alternative. The answer came from locomotive builders GE and EMD. Both were successfully marketing six-axle road-switchers with space available under the long hood that could be filled by a steam generator. General Electric passenger U-boats got the first nod.

Externally the first offering pretty much looked like a regular freight U28C, a six-axle 2,800 hp road switcher except adorned in a splashy slightly modified Santa Fe red and silver instead of freight blue and yellow. A novice could spot the bulge in the left side of the long

hood where GE engineers successfully carved out additional room for the Vapor-Clarkson steam generator and its auxiliary equipment. Ten joined the roster numbered 350-359 between July and August 1966.

Considering they were among the first GE locomotives to power Santa Fe passenger trains, crews had to get used to different handling techniques over the EMDs, but soon trios of them were regularly assigned to long distance trains.

Santa Fe management was happy enough with their performance that management returned to General Electric for more, but this time six cowl versions of the

newer-in-the-catalog 3,000 hp U30C. Dubbed U30CG it was resplendent with fluted stainless steel side panels. GE delivered them in November 1967 with numbers 400-405. This would be Santa Fe's last passenger order for GE. A few months later the first of the red-and-silver 3,600 hp EMD FP45s would be on the property.

The units operated for just a few years in passenger service. A derailment involving a U30CG in Illinois led Santa Fe management to take the side of caution. They pulled both models of General Electric passenger U-boats from the high-speed passenger pool and re-assigned them to freight duty.

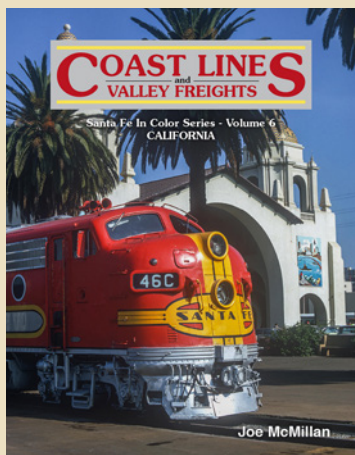
Santa Fe renumbered the U28CGs 7900-7909 and the U30CGs 8000-8005. As they came due for shopping, yellow-and-blue replaced their red-and-silver passenger colors. Shop crews re-gearred both models to 74:18 for their new assignment.

The units roamed the Santa Fe in general freight service although were seen most often working in and around Colorado. Finally, in 1980, after giving good service as "just another freight unit" they became trade-in fodder for new GE B36-7s. — David Lustig



No. 400 marks its first day on Santa Fe property at Kansas City in November 1967. The U30CG was the only General Electric passenger U-boat model with a full cowl body. Jerry F. Porter

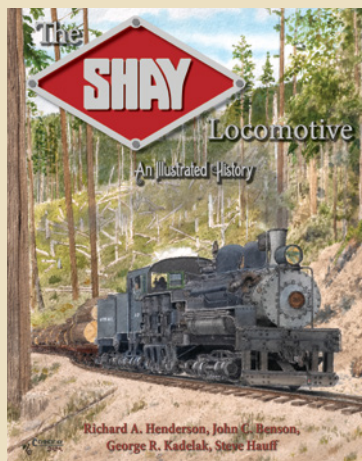
Reviews



Coast Lines and Valley Freights: Santa Fe In Color Series - Vol. 6 California

By Joe McMillan. McMillan Publications, Arvada, Colo. 348 pages, \$89.95.

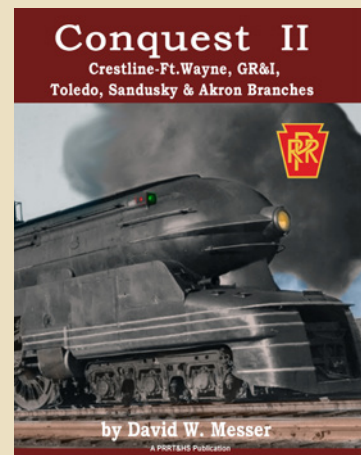
This weighty hardbound volume will quicken the pulse of any diehard Santa Fe fan. Covering the last three decades of the road, this superb book is an excellent and magical tribute to the Santa Fe in California. Routes covered extend from Oakland south to National City and east to Mojave, Calif., encompassing the Los Angeles and Valley divisions. Several points stand out with this book. First is the photographers' ability to capture different locomotive and train types on the Santa Fe through the years and also identify the location, locomotive, and train symbols. Second, the reader is treated to a lot of eye candy, but it's followed up with an outstanding amount of back-up information as text. — *Don Heimburger*



The Shay Locomotive: An Illustrated History

By Richard A. Henderson, John C. Benson, and George R. Kadelak, and Steve Hauff. White River Productions, Bucklin, Mo. 640 pages, \$99.95.

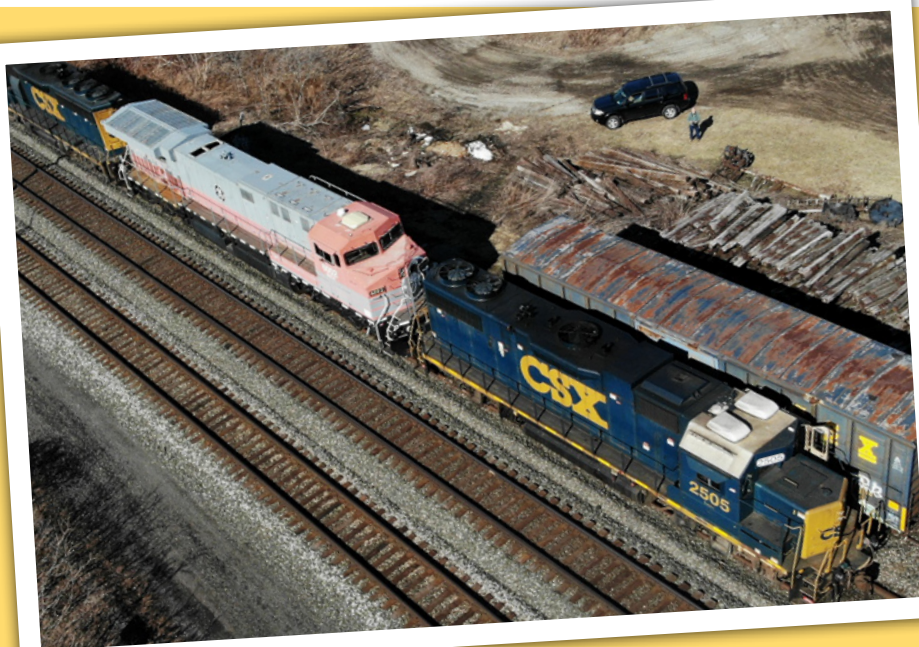
Mention of Shay locomotives conjures up visions of geared locomotives on steep, twisting rails meandering through swamps, backwoods, and mountains. Readers will find everything they have ever wanted to know about these distinctive engines. Chapters include the Lima Legacy, Basics of the Shay, Mishaps, Dealer Sales and Marketing, Shay Copies, Shay Survivors in the 21st Century, a Shay Gallery of Photos, Lima Shop Numbers, Owners/Operators list, Geographical list, and technical data such as Shay patents, and statistical and technical data. The book is mostly black-and-white photos, drawings, and sketches with some color. — *D. H.*



Conquest II: Crestline-Ft. Wayne, GR&I, Toledo, Sandusky & Akron Branches

By David W. Messer. Pennsylvania Railroad Technical & Historical Society, Bryn Mawr, Pa. 345 pages, \$90.

Author Messer (who died in 2020) does an outstanding job documenting PRR's conquest of lines west of Pittsburgh extending to Columbus, Cincinnati, St. Louis, and Chicago. He calls the young Pennsy's extensions a "great leap westward" and by doing so, capturing traffic from several major cities. Numerous maps, track charts, facilities diagrams, and photographs of steam and diesel locomotives, freight and passenger trains, stations, and facilities, document the railroad. It contains an amazing 750 illustrations, some in color, and an additional 20 pages of fold-out maps in a separate packet included with the book. — *D. H.*

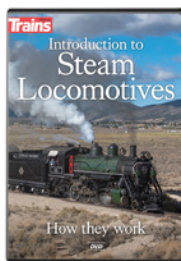


They put WHAT in a museum?

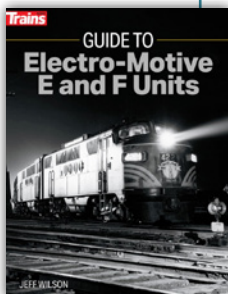
One of two remaining intact GE AC6000CWs, demonstrators for the 6,000-hp, A.C.-traction locomotives, has been donated to the Lake Shore Railway Museum in North East, Pa. GE successor Wabtec donated GECX 6002, built in 1998 for Union Pacific as 7511, and returned to GE to serve in its test fleet. The locomotive is in nearly as-built condition with all original equipment. The AC6000 was the first to employ a 16-cylinder 7HDL-16 diesel engine along with alternating current. A total of 208 were built for Union Pacific and CSX; the few still in operation have been extensively rebuilt. Stephan M. Koenig

New from Kalmbach

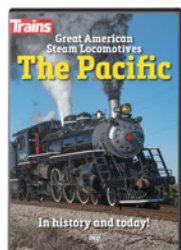
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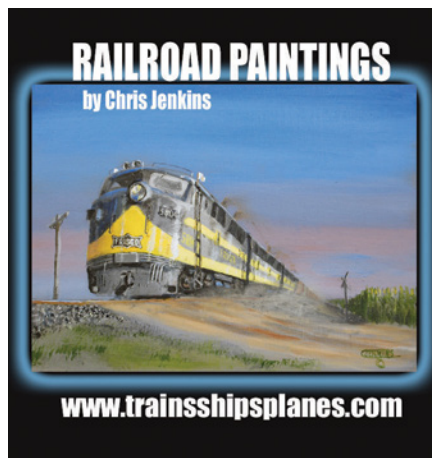
Horse Power: Norfolk Southern at 40. Relive the 1982 merger of Norfolk & Western and Southern, the 1999 expansion with Conrail, the opportunities and challenges of today.



EMD at 100. Noted videographer Rich Luckin looks at this builder's origins, growth and development, supremacy, and its role today as an arm of Progress Rail.



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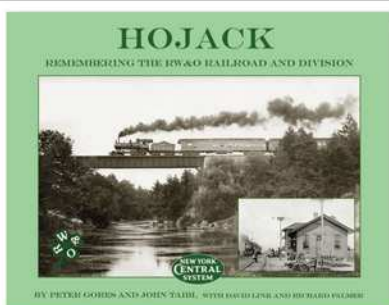
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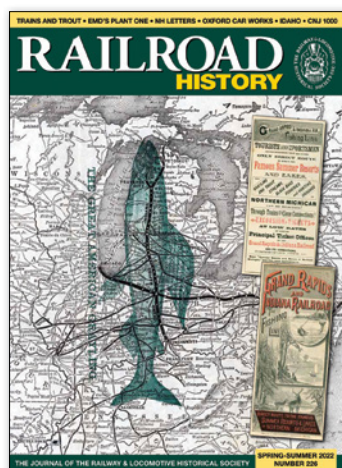
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In the Spring-Summer 2022 issue of **Railroad History**: Railroads and sport fishing; The rise and fall of Electro-Motive's La Grange facility; Winton/EMC/EMD chronology; Broken Hopes - A north-south railroad in Idaho; Oxford Co-operative Car Co.; CNJ box-cab diesel No. 1000; Letters from a New Haven railroader.

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More 'Train Time at Townsend'

Having lived in Groton for more than 40 years, I particularly enjoyed "Train Time at Townsend." In fact, on May 2, 1971, I was aboard the last passenger train down the Greenville Branch. It was a Massachusetts Bay Railroad Enthusiasts-operated fan trip. In 2021, most of the branch from near the town line in West Groton northwest to Townsend Center opened as a bike path. One note for future consideration is in order: The B&M had neither wayfreights nor cabooses. Instead, it had locals and buggies!

— Carl R. Byron, Groton, Mass.

¶ Coincidentally, while looking for photos for your story in this issue (on p. 88), I stumbled across this photo of the Townsend branch that I previously overlooked. — B.M.S.



A Boston & Maine brakeman protects a crossing at West Groton, Mass., on the Ayer-Townsend branch featured in Spring 2022, for local AY-1 on July 2, 1982. Scott A. Hartley

Welcome aboard, kid. Don't mess with our magazine

Welcome to the family, and the best train magazine around! Please don't challenge us too much about what is classic since there are so many steam fans out there that have no other source in such a great format. Leave the changes to the digital editions if you want, but keep steam No. 1 in paper! Old steam photos are tops too. Some freight stories and pictures would be great too—so much passenger info and pictures abound. Don't forget the tail end either, as cabooses are one of any railroad enthusiast's favorites, and very little time is spent on photos or stories of them and the men in them.

I do not have much interest in recent railroading ('80s and beyond), because there are so many interesting years and eras to cover otherwise, especially in pictures, and also in stories. Some of the best were from the guys who worked on the railroads. I hope that continues on forever, as long as there is material to be found.

Welcome. I wish you success.

Barry Hartzell, Lansdale, Pa.

I'll introduce myself by saying I grew up in Milwaukee but spent most of my adult life in Seattle and glad of it.

Let me tell you, I do not want my notion of classic trains challenged. Having worked at Union Pacific's Argo Yard during the '80s and '90s, I have seen enough SD40s to last a lifetime. I quit TRAINS magazine after subscribing for many years when railroads became just a few mega-operations and locomotives all started looking alike. Yawn. The past, the classic past, is about steam and first generation diesels.

So welcome aboard. Just keep one foot on the bottom rung and both hands on the grab rails. If you're dying for change, you might include some European and other stuff from around the world.

Walter Marquardt, Seattle, Wash.

I wish you the best for success in your new position.

While I've had a TRAINS subscription since 1967, my late father picked up on the fact that CLASSIC TRAINS was coming out with its first issue about the time I

had three kids in college. I wasn't able to get on board for quite a few years.

When Dad passed in 2015, my mother made sure I received his collection, because he read them and kept them. So I have them all. Thanks, Dad.

You asked for some thoughts; here are mine. I think an overlooked aspect of rail photography is the time exposure with natural or available light, not posed pictures with fill-in flash that are made at the Saturday night photo shoot. I took a few time exposures in the early 1970s and I was pleased with the results though my equipment was primitive.

Bob Wise, Coulters, Pa.

Hopefully you won't focus too much on Conrail even though its roots are 50 years old.

One correction: On page 19, a 2-8-2 is designated a Mohawk whereas these locomotives were actually 4-8-2s.

Gerry Karg, Riverdale, N.J.

Have been a longtime admirer of your publication (and TRAINS, too). Your re-

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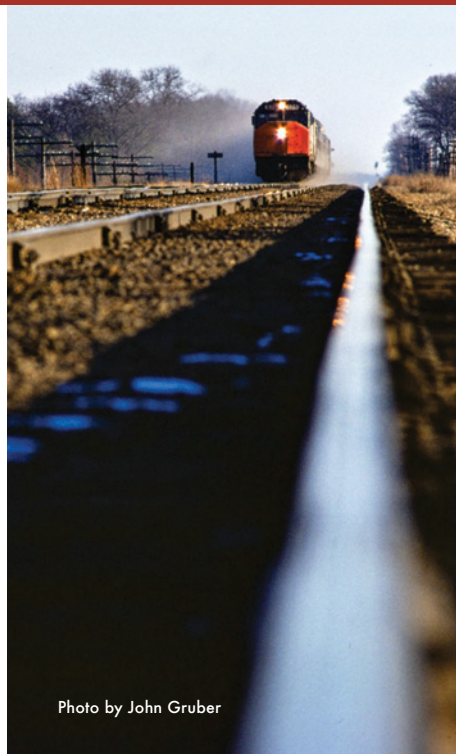


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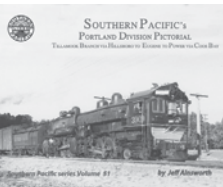
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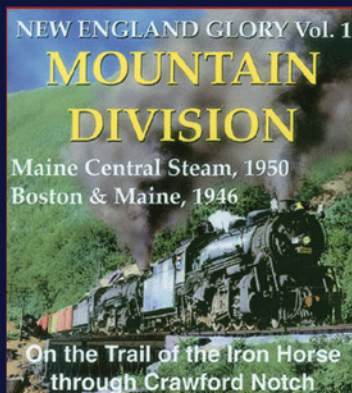
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 Sierra, is much appreciated.

Keep up the good work!

Bill Reinheimer, Modesto Calif.

Mainline tank engines

I read with delight of the commuter
 tank engines. I was likely 10 when we vis-
 ited Montreal. My father just loved
 watching trains, and, on this occasion, we
 were down at Westmount, when the
 commuter train rolled in. It was quite im-
 pressive indeed. No snorting, no slipping,
 nothing, just wham and it was gone —
 and gone like I had not seen!

Gord Young, Peterborough, Ontario

Who ran those GG1s?

Nice job, Brian! Features by Hand,
 Zimmermann, Swanberg, Pinkepank,
 Stanley, Johnston, and Burger. Tough to
 go wrong. I expect that Mr. McGonigal
 has given you his stamp of approval.

But I also expect that your Penn-
 sy-preoccupied predecessor chatted with
 you about the "Amtrak GG1" picture.
 That GG1 actually is New Jersey Depart-
 ment of Transportation No. 4872. The
 state acquired 13 GG1s, No. 4872-4884,
 soon after the formation of Conrail in
 1976. The 13 NJDOT Gs — with minimal
 lettering — were used on Conrail-operat-
 ed commuter trains until the formation
 of NJ Transit on Jan. 1, 1983, when they
 became NJT engines. Among the group
 was 4876, famous for its role in the 1953
 runaway at Washington Union Station.
 Sister 4877 lost its basic black in 1980
 when it received a fresh coat of Pennsyl-
 vania tuscan and pinstripes. It was one of
 three still remaining when all were re-
 tired in October 1983.

Scott A. Hartley, East Windsor, Conn.

Fast Mail mishap

Regarding Tim Garner's letter in the
 Spring 2022 issue, the gentleman on the
 left in the photo at the bottom of page 9
 was Ralph Dinsmore, the regular first-
 shift block operator at Perryville Tower
 for many years.

On the day of Tim's visit in 1978 I was
 assisting Mr. Dinsmore. It was not un-
 common for an available operator from
 the extra list to be assigned to assist the
 regular first-shift operator at Perryville, if
 heavy maintenance work was occurring
 on the portion of the Northeast Corridor
 under Perryville's control. I worked many

first shifts (and other shifts) at Perryville, but always off of the Wilmington extra list (including filling-in for regular operators on vacation). I was never the regular first-shift operator at that tower.

Al Walton

Fool me once...

Are you sure the photo, "Steam returns to Western Maryland," doesn't belong in Model Railroader? It's a beautiful layout with excellent buildings and scenery, a superb painted backdrop just beyond the big yellow trees and buildings, a bright red caboose, a really detailed steam locomotive, and a roadbed on a gray board. The whole layout is built on a wooden table — one edge shows in the foreground. Oh, wait! That's real steam there, isn't it?

Bill Eccles, Columbia, S.C.

C415 = One 1000

I saw on page 7 the article on the Alco C415. I found this interesting as one of Australia's best writers, Chris Walters, has also written on the locomotive's history both in the U.S. and Australia.

*Stephen McLachlan, Editor,
"Australian Railway History"*

ONE 1000

BY CHRIS WALTERS

The Diesel Era
The United States locomotive industry was evolving throughout the 1950s. Whereas the early diesel era had followed on from the steam locomotion trend of better for cost, the "road switcher" concept was coming to dominate the market. There was a locomotive that could switch (haul, haul freight and transfer easily to passenger service) should the need arise. The American Locomotive Company (ALCO) was a force in the industry, and made a name for itself as the peak of steam, culminating in the Big Boy — the 25 articulated 4-8-4s it designed and constructed for the Union Pacific (UP) at the tail end of World War II. These machines were regarded as the best, and

usually last word in steam locomotion technology for change had already begun.

Kind builders such as General Motors' Electro-Motive Division (EMD) had entered into diesel locomotive production before World War II and in 1942 had issued a demonstrator of the model FV, a cab unit pair of locomotives that would signal the end of steam as while the Big Boys were still under construction at ALCO's Schenectady Locomotive Works in New York State.

ALCO had already entered the game with its own products, notably the Switcher 5 and road switcher B1 series locomotives between 1940 and 1951, and had considerable success with these. It is interesting to note that the subject of this story — Hamarley's C415 locomotive (1955) — has an example of each of these in its company today, but more on that later.

The early years of ALCO diesel era were characterized by the partnership with General Electric (GE), which meant great dividends. However, GE chose to discontinue the partnership and settle up on its own in 1953, and while it took them a few years to become the industry giant they are now, their long game proved to be a wise one.

In contrast and hindsight, ALCO began to emerge somewhat. Although it made an impression with the switcher 5s and B1 series of the late 1940s and early 1950s, the remainder of that decade saw the firm attempting to refine its existing products, mostly coming from the switcher line, and push the roadswitcher 244 series engine, and push the international World Series products, rather than the

switcher and GE stepped into the 'gap' left by ALCO. Other firms such as Baldwin Locomotive Works and Fairbanks Morse had exited the race by the mid-1940s.

It was around this time that ALCO played what would be its last hand — the Century Series. Here was the firm's all-or-nothing attempt to regain relevance, a range of road switchers designed to take on and surpass the winning products of EMD and GE.

Three different road switcher models in the 2000-2400 hp (1491-1790 kW) range inaugurated the Century Series in 1952. These were followed in 1954 by three GE30000 3000 hp (2237 kW) B-B-B locomotives, which answered the same call from UP for massive single-unit locomotives that reached in the EMD 1010A and later 1040AAX Continents, the largest diesel locomotives ever built.

C415
On the heels of the trio of giants came the humble C415, the lowest-powered entry into the series. Matched on its versatility — it could apparently be driven by a single person crew — it was also more powerful than the EMD 1010, which was the most powerful EMD offering at the time. Unfortunately, it was probably the 244 model product for it was, more than most of the rest of the Century Series range, a 'horse' for a course that was starting to wane. These simply were not the same demand for low-to-mid-powered switcher locomotives any more.

The prototype, builder's number 2447-01, appeared in April 1946 and manifested in the low cab profile variant offered with the model. Painted in a distinctive dark blue, white and gold with red pin stripe lines, the locomotive rode on a pair of American Association of Railroads (AAR) type B bogies, a design used extensively by ALCO, but also by a number of other U.S. builders. The locomotive was numbered 415 and issued as a demonstrator of the model. With 1250 hp (919 kW) available for traction from its V8 ALCO 252D engine combined with a GE CE3045 main generator, 415 was issued with four GE 752 Series traction motors.

Alco C415 demonstrator no. 415 is now here in the Hamarley, New York, display yard (1955). The locomotive was built by Hamarley Locomotive Works and numbered 2445. Hamarley Locomotive Works.

The lead spread of Chris Walter's story in the March 2021 issue of Australian Railway History shows the Alco C415 in both its as-built paint and later after export to Australia.

Got a comment? Write us at Fast Mail, Classic Trains, P.O. Box 1612, Waukesha, WI 53187-1612; email: fastmail@classictrainsmag.com. Letters may be edited for length and clarity.

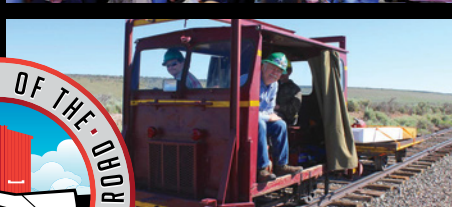


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Dramatic demonstration

Winter storm clouds hang over Berwyn, Ill., as Electro-Motive's GP35/DD35 demonstrator set rolls west along the Burlington's triple track "Racetrack" between Chicago and Aurora on Dec. 7, 1963. The consist includes a forward-facing GP35-DD35 pair, F unit carbody Test Car ET-909, a rear-facing GP35-DD35 pair, and a dynamometer car. History knows that only western giants Southern Pacific and Union Pacific went for the cableless DD35, or any EMD double diesel model for that matter. But on this day, the future is still bright for big power from the century's biggest builder of diesel locomotives. J. David Ingles photo, Brian M. Schmidt collection



A worker admires Electro-Motive's revolutionary 567 diesel on the La Grange factory floor. EMD, Wallace W. Abbey collection

EMD hung its hat on the 567

Electro-Motive's first in-house developed prime mover was a blockbuster success

Hard as it is to believe for a company once considered an upstart, this is the centennial year of Electro-Motive, the company that in so many ways put the steam locomotive out of business.

It was back in 1922 that a small group of visionaries organized the first Electro-Motive Engineering Co. in a small building in Cleveland, bent on changing the trajectory of railroading. It didn't take long for their ideas to bear fruit, and within a few years they were a ward of General Motors, first as wholly owned subsidiary and, after 1940, as a full-blown division of GM.

The centennial has been on my mind as my colleague Martha Abbey Miller and I put the finishing touches on her late father Wallace W. Abbey's last book, "The Diesel that Did It," coming later in 2022 from Indiana University Press. Abbey spent much of the 1990s writing and researching this history of the FT unit of 1940, and although health problems caused him to cut short his work after 2000, we've done our best to complete the project as closely as possible to how he envisioned it.

The book is full of the kind of drama only a writer of Abbey's caliber can mus-

ter. It's a story of visionaries such as Harold L. Hamilton and Charles W. "Boss" Kettering, who pushed theories of mass production taken directly from the automobile business. It's a story about style, in which the elegant compound curves of the FT came to symbolize railroading itself. And it's a story about performance, wherein a series of grueling trials showed the FT had muscle.

It's also the story of something more essential: the 567-model engine, the prime mover that ultimately made everything possible. In his book, Abbey offers an elegant description:

“The 567 was a two-stroke-cycle compression-ignition engine, each piston of which displaced 567½ cubic inches of air, hence the engine’s model number. The cylinders were 8½ inches in diameter; the pistons had a 10-inch stroke. The pistons compressed the air in the cylinders in a 16:1 ratio. Per horsepower, the 567 engine weighed a mere 17.9 pounds. Under standard conditions — temperature 60 degrees Fahrenheit, altitude 1,000 feet — the 567 would produce 106 horsepower per cylinder. Every minute, the explosions in the cylinders would drop on the pistons a load equal to the weight of a Navy heavy cruiser. The 567 engine would doom the steam locomotive.”

The 567 wasn’t the engine that launched EMD. Credit for that goes mostly to the 201 and 201A engines built by EMC partner Winton Engine Co. These two-cycle, 8-cylinder inline diesels powered early Budd-built streamliners, notably Burlington’s first *Zephyr*, three siblings that followed, plus Boston & Maine’s *Flying Yankee*, among others. But, as Abbey writes, the Winton engines “were far from bug-free. Their design didn’t lend itself to mass production.” The biggest problems were related to inefficient cooling, to the

point where traction motors failed and impurities fouled engine bearings.

The 567 solved all that, and best of all, it was a pure EMC and EMD product, designed and manufactured right there in the company’s famed La Grange, Ill., plant. Initially it came in three sizes, a 600-hp V-6, a 1,000-hp V-12, and in a 1,350-hp V-16. It was known as much for its durability as its horsepower.

Relatively easy maintenance helped make the case for the 567, especially when considering the steam locomotive’s Achilles heel: the vast shops and forces necessary to support it. Abbey explains: “The 567 was easy to work on. Take off the top deck covers and most everything that might need to be unbolted or adjusted was right in front of you. Power assemblies — cylinder liners, pistons, connecting rods, cylinder heads, injectors — could be removed with a small block and tackle.”

Beyond the obvious mechanical and economic impacts of the 567, there was another less tangible but no less memorable aspect to its performance: the way it sounded. Longtime *TRAINS* Editor David P. Morgan said the 567 “chanted,” an apt description.

Morgan expanded on that in September 1972 *TRAINS*, which celebrated EMD’s 50th anniversary. He was talking about the sound of “original” 567s, “not so much the sound of 1972, when engine exhaust is muffled by all that strange-sounding electrical gear, but rather the sound of straight, unadulterated 567-series V-16s winding their 8½ x 10-inch cylinders from 275 up to 800 rpm — easy on the ear, a right sound if there ever was one in all of internal combustion.”

That sound — and that performance — powered virtually all of EMD’s locomotives between 1938 and the use of the 645 engine on production models in 1966. It’s a remarkable record for something so basic as an engine. So, this year, as you contemplate EMD’s centennial, save some huzzahs for the sturdy, reliable 567. **■**



KEVIN P. KEEFE joined the *TRAINS* staff in 1987, became editor in 1992, and retired in 2016 as Kalmbach Media’s vice president, editorial. His biweekly blog “Mileposts” is at Trains.com/ctr.

South Shore Line Invests \$1.5 Billion in Double-Track and West Lake Corridor Projects

Join Shore Line to get the complete story!



On February 27, 2022, the last day of street running in Michigan City, a westbound train is traversing the reverse curve between 10th and 11th Streets crossing Amtrak and Chicago Avenue. Photo: Jeffrey Wojciechowski

Extensive coverage of South Shore Line’s double-tracking its railroad between Michigan City and Gary and building a railroad in Hammond and Munster, the West Lake Corridor, will be provided in **First & Fastest**. **Join Shore Line now for 2022!** The Spring 2022 issue will be mailed upon receipt of your membership. Each quarter you will receive more information. **You will know the complete story of these two once-in-a-century projects.**



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EMC products line up for the 25th anniversary celebration at La Grange, illustrating progression of product line. EMD

EARLY ELECT

The formative years of mid-century's No. 1 locomotive builder // BY PRESTON COOK

On the afternoon of Nov. 22, 1946, Harold L. Hamilton was completing work on a long letter summarizing the history of the Electro-Motive Division of General Motors. EMD was approaching its 25th anniversary in the railroad equipment building business, and part of the celebration of that event was the publication of a book on the history of the company prepared by Franklin M. Reck of Manchester, Mich. The letter in progress was an enormous document, almost 30 pages of detailed inside perspective on the early days of Electro-Motive, and the man writing it was the absolute authority on the subject, because he was the founder of the company. Unfortunately, much of what he wrote that afternoon would not be used in Reck's book "On Time." There would not be room in the book, which covered a much wider scope than the short period from the founding of the company in 1922 to its acquisition by GM in 1930, the focus of Hal Hamilton's afternoon of writing.



ELECTRO-MOTIVE

While he might not have had Reck's polished writing skills, Hamilton could be quite eloquent: "It is not often that a group of people associated together as pioneers in an enterprise, have the good fortune to see it reach complete maturity and revolutionary success within their active span of time. That however is the experience of the group that laid the foundation for this business, and most of them are still on the scene."

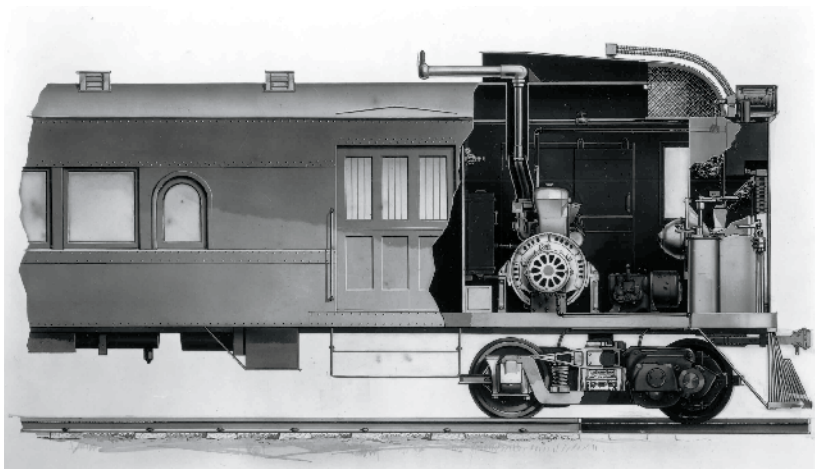
THE DREAM

Hamilton's early experience as a salesman had made him aware of the challeng-

es posed by rural transportation in the 1920s. While automobiles were improving in usefulness and affordability to a wider segment of the public, the road network outside large cities was still lacking.

The nation's vast network of railroads serviced many communities, but passenger transportation on branch lines was usually the province of the oldest and least reliable steam engines left on each railroad, along with passenger coaches in similar condition. The latter were often, as Hamilton described, "pungent with the accumulated odors of decades of tobacco juices."

Due to the relatively high operating expense for operating this outdated equipment, schedules on many branch lines provided infrequent service and station stops were lengthy. Hal Hamilton had become aware of the economics of railroad operations in his years as a locomotive fireman and engineer on the Southern Pacific Railroad and had then seen a contrasting perspective as a regional executive of a trucking company beginning in 1914. This odd range of background experience had positioned him well for the business ventures he was about to undertake.



Machinery of the cars was as kept simple. The Winton gasoline engine was mounted sideways with the radiator section above. There were no traction motor blowers; instead the motors were equipped with armature fans. Preston Cook collection

Co-founder Hal Hamilton became general manager of EMC under GM ownership, and later vice president of the parent. He is seen in his office in the late 1940s. EMD

One other experience influenced Hamilton's railroad equipment design thoughts. During World War I, branch lines were torn up for metal to make munitions. To facilitate the removal of light rail from deteriorated lines, Hamilton had supervised a project using flanged-wheel trucks to push flatcars to the end of a line to collect loads of salvaged iron. This application influenced several manufacturers to adapt buses and trucks for relatively light-duty rail transportation and maintenance.

Hamilton found these automotive adaptations were generally short-lived and required high maintenance. Frames and running gear designed around highway applications simply did not stand up to the daily battering on a major railroad. The engines, transmissions, and drivelines were also subject to frequent failures due to the mechanical shock loadings of operating on railroad track.

He left this experience with a respect for the developing capabilities of the internal combustion engine, but firmly

convinced mechanical transmissions and clutches were not suitable for use in railroad vehicles.

Instead, Hamilton became a strong advocate for the use of internal combustion engines with electric transmission systems, essentially setting the stage for his next remarkable excursion into railroad vehicle product development.

THE CONCEPT

In 1922, based on his knowledge of rail operations and the growing trucking and bus industries, Hamilton envisioned the concept of a relatively lightweight and high-speed railroad motor car. It would provide enhanced service at lower operating cost to communities along remote branch lines where establishment of competing bus routes was not likely to be feasible for several years. In order to ensure success, the motor cars needed to be modern and clean, and the railroads needed to be convinced to take advantage of their reduced operating expense to run

them more frequently than the branch-line steam trains they would replace.

The window for this market was likely to be brief because of improvements being made to rural highways. Once a network of good roads was more widely available, bus lines and motor-freight companies would compete with the railroads. Hamilton thought his concept would provide more reliable service in all weather conditions and might be viable for a decade or more.

He studied the economics and technical problems of his planned business carefully for about six months. His study included a review of the previous efforts at the design of similar equipment. He also contacted many railroad officials for their opinions regarding motor cars. Hamilton subsequently stated their opinions were of little value because "there was no agreement among them at all."

After considering all the anticipated issues he concluded the rail motor car concept was worth a shot. He and his busi-

1922 ENTER ELECTRO-MOTIVE:

The Electro-Motive Engineering Corp. in Cleveland, Ohio, begins to market gas-electric railcars. With GE electricals, Winton engines, and carbodies from various builders, more than 700 EMC doodlebugs are sold by 1930. CLASSIC TRAINS collection



1929 MOTOR CARS TO LOCOMOTIVES:

Following a 1927 installation of Winton gas engines in two former mail cars, Rock Island converts three more to locomotive-baggage cars and orders seven all-new units from EMC with bodies by St. Louis Car Co. CLASSIC TRAINS collection



ness partner, salesman Paul Turner, established the new company in Cleveland, Ohio, in 1922. In deference to their preference for electric transmission systems they called it the Electro-Motive Engineering Co. It's possible that they got the idea for the company name from reading the recently issued volume titled "Generation of Electromotive Force," a widely distributed reference on the design and application of motors and generators.

One challenge faced by the designers was the problem of making the motor car suitably strong while avoiding excessive weight. Hamilton was convinced, to succeed in the railroad environment, his motor cars needed to be able to handle some of the same operational requirements as traditional equipment. They would also need to be significantly lighter in order to realize the best possible fuel economy, and durable enough to withstand years of daily service.

These seemingly conflicting requirements were addressed using a very unconventional method of construction. The car used a side truss frame hidden by the lower panels of the carbody to provide stiffness and load-carrying capability. This allowed the underframe to be a pair of Z-shaped channels as opposed to a heavy underframe as was common in passenger cars of the period.

A second challenge was finding a suitable internal combustion engine. The power requirements for railroad service ruled out virtually all the builders of highway motor vehicle engines at that time. The rail application needed 250-400 hp and there was nothing then in highway use that could provide it.

This left Hamilton to choose from various builders of construction and industrial machinery, or from the marine-engine field. He selected the neighboring Winton Engine Co., owned by automotive magnate Alexander Winton, as the best available option.

Winton was, at the time, one of the

largest builders of marine engines in the world, widely known to produce smooth-running, high-speed gasoline-powered products. It was also working on the development of diesel prime movers for marine and stationary service, but in 1922 these engines were still much too heavy for use in Hal Hamilton's rail motor car design.

Hamilton worked with the Winton engineers to develop a suitable prime mover for railroad application. Their efforts resulted in the Model 106 gasoline engine, which was also built in marine and industrial versions.

Traction motors weren't a problem as axle-hung models already existed in trolley and interurban transit and electric locomotive applications. However, Hamilton needed a source of suitable electrical transmission equipment.

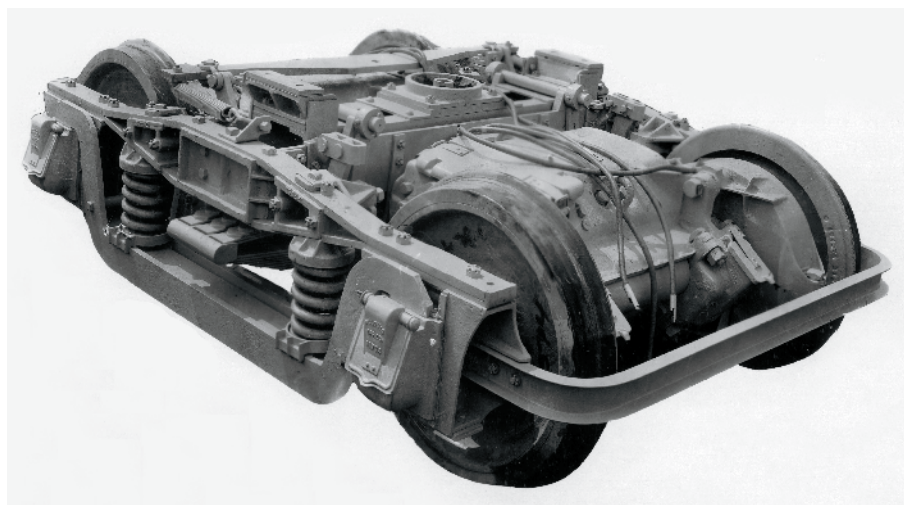
Finding a suitable generator for use with the Winton engine was a challenge. Control technology for engine-powered generating applications requiring continuously variable speed and load was still in its infancy. Hamilton approached West-

inghouse Electric and found that it was willing to pursue the design of the equipment — but entirely at his expense.

He then contacted General Electric, which had built railroad motor cars prior to World War I. It was receptive to pursuing the design of a suitable transmission system based on Hamilton's analysis of the potential market.

GE also was willing to work on the problems involved in providing electrical load control for the vehicle that would integrate the generator loading with the engine throttle control. Hamilton wanted the controls to be as similar as possible to those of steam locomotives. He didn't want the engineer to have to deal with a half-dozen knobs, dials, and levers to make continual adjustments to the power plant as speed increased. Everything needed to be done with a single throttle lever.

Part of the successful solution was development of a generator suited to the requirements: a "variable voltage, differential field, separately excited" Direct Current machine. The design formed the basis of the transmission systems in



The powered truck of a gas-electric car shows the two axle-hung traction motors. The lightweight construction of the car and the lack of traction motor blowers illustrate its intended use as a self-propelled passenger vehicle rather than as a locomotive. Preston Cook collection

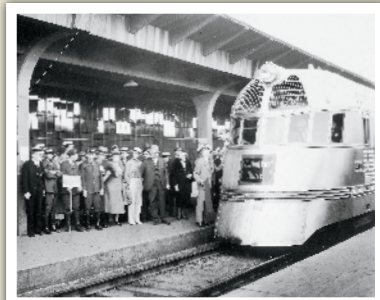


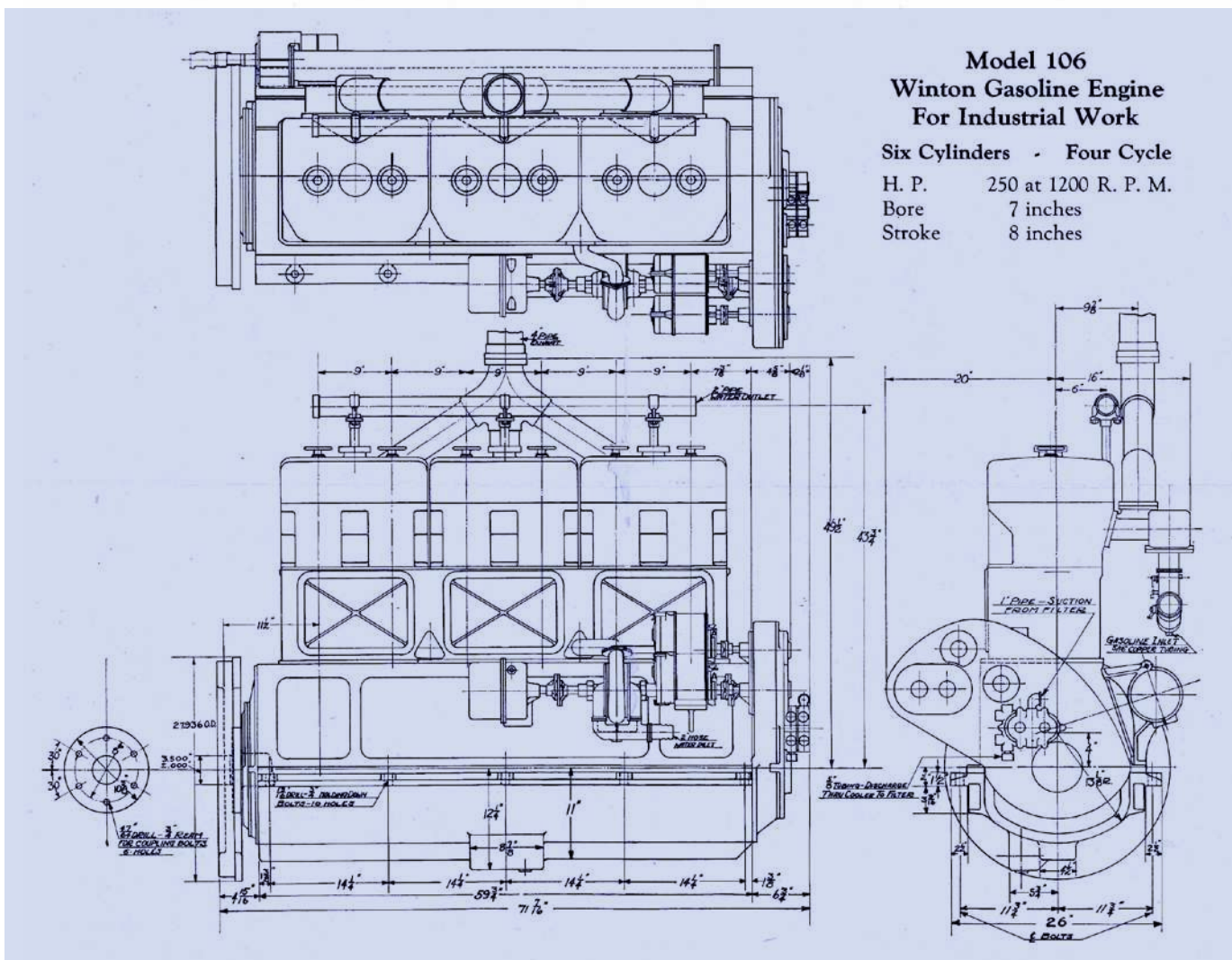
1930 DETROIT GOES RAILROADING:

General Motors purchases Electro-Motive Co. and its gas-engine supplier, Winton Engine Co. GM backing fuels the development of a Winton diesel and the growth of EMC. CLASSIC TRAINS collection

1934 THE DIESEL GOES MAIN LINE: In

April, two months after UP's M-10000 streamliner debuts with a Winton distillate engine, GM unveils its first diesel-locomotive power plant, the Winton 201A, in Burlington Route's *Zephyr*. On May 26, America's first high-speed diesel-powered train makes a record run from Denver to Chicago in 13 hours 5 minutes, pulling the diesel out of the shadows of yard duty and into the spotlight. CB&Q





Electro-Motive's subsequent products through 1938. Improvements after that led to the adoption of systems with separate external load regulators.

THE PRODUCT

Hamilton and his small team of employees then set out to combine these elements into a workable design for a gas-electric railway motor car. He later observed they "had to be substantially

Model 106 gasoline engine provided power for many of the early cars. These engines were installed crosswise just behind the operator's seat. Preston Cook collection

correct in everything they did as there was no reserve capital to finance mistakes." The result of their efforts was a carefully engineered vehicle incorporating contingency features to provide adequate margins for future growth of the design.

The basic powered unit was sufficiently adaptable that it could be constructed

in several combinations of seating, baggage, and express space. A design was also developed for a compatible non-powered trailer car for use on routes that required additional passenger-carrying capacity.

Hamilton correctly guessed railroads would overload and abuse his creation,

1935 **ELECTRO-MOTIVE'S LOCOMOTIVES:** EMC's first true diesel locomotives are outshopped from General Electric's Erie plant: two 600-hp switchers for the Lackawanna (Nos. 425-426) and three twin-engined, 1,800-hp passenger box-cabs: EMC demonstrators 511 and 512 and Baltimore & Ohio 50. All are powered by GM's new Winton 201A diesel engine and equipped with GE electrical gear. EMC



1935 **DIESELS FOR THE SUPER:** Santa Fe takes delivery in August of St. Louis Car-EMC box-cabs 1 and 1A for use on the all-Pullman *Super Chief*, which enters service behind 1 and 1A at Chicago on May 12, 1936.

and he over-specified the generator and traction motors for this possibility. He also allowed adequate room in the carbody and left a suitable margin for added weight on the front power truck so a second prime mover and generator unit could be installed to boost horsepower. This proved to be an excellent decision as a number of railroads eventually wanted more powerful versions.

With the requirements defined, Hamilton sought the services of a company willing to build the new and unusual railcar that would maintain confidentiality and not turn into a direct competitor. He settled on the St. Louis Car Co. to build his first gas-electric cars.

At that point, Electro-Motive did not have the capital, staff, or resources to set up for the construction of the carbodies and the trucks, which represented better than 50% of the cost of the vehicle. Hamilton and his staff would provide design services, market and advertise the gas-electric cars to the railroads, coordinate the construction, deliver the product to the customer, and provide technical support in the field. Curiously, this arrangement did not prohibit his suppliers from advertising their skills in the construction of his products in the trade press, which they did even though they did not have the final product to sell.

Selling the cars proved to be another challenge. Hamilton's initial contacts with railroad mechanical department managers were frustrating. Motive-power design had traditionally been an area where each railroad's mechanical department exercised great influence; chief mechanical officers were used to having the equipment builders design things the way they wanted them.

Hamilton's concept for the gas-electric car called for a high degree of standardization. The mechanical department people often balked at this intrusion into their area of influence, nitpicked the product, and became obstructive to the sales effort.

As a result of these early experiences, Hamilton changed his target audience, directing his sales efforts at railroad executives and operating management and bypassing the mechanical departments completely. His presentations to the railroads were based on the potential economic advantages provided by the gas-electric cars compared to their existing fleet of steam locomotives. He took an enormous gamble by offering the railroads the performance guarantee that if the car did not operate for its first 30 days of service with no more than two reportable road failures (causing more than five minutes of delay), they could hand it back to the builder and the deal was off.

Two railroads, the Chicago Great Western and the Northern Pacific, took him up on his offer, and ordered one car each, conditional on the cars meeting the performance curves and the reliability guarantee. The orders were placed with St. Louis Car, and production began.

THE BREAKTHROUGH

The first car to be delivered went to the CGW in August 1924. Right from the first run, Hamilton's expectation that

railroads would overload the equipment was confirmed.

The gas-electric car and its transmission system had been rated and advertised as being capable of handling a 35-ton trailing coach, adequate for the unpowered trailer Electro-Motive offered. But the general manager of the CGW elected to accompany the new gas-electric on its first trip and coupled his 85-ton business car to it. Fortunately, there were no problems on the run to Oelwein, Iowa, but Hamilton was kept busy checking the main generator's temperature as the car handled the ruling grades on the line.

The NP car went into service in the last days of August 1924.

Both cars passed their performance and braking tests on the respective railroads, confirming the accuracy of the design calculations made by the Electro-Motive staff. The field-service people were kept very busy riding and supporting the needs of the new cars for the tense 30-day performance guarantee period. Hamilton said, "It does not require much imagination to bring out how thin the ice was under us. A plugged gasoline line, broken spark plug, dirt in the air



Gas-electric motor cars were the first successful applications of internal combustion on railroads. Chicago, Burlington & Quincy No. 9838, an Electro-Motive product built by St. Louis Car Co. in 1927, stops at Virden, Ill. It was powered by a 275-hp gasoline engine. Gordon Lloyd Sr.

1937 SWITCHERS AND STREAMLINERS FOR THE ROCK:

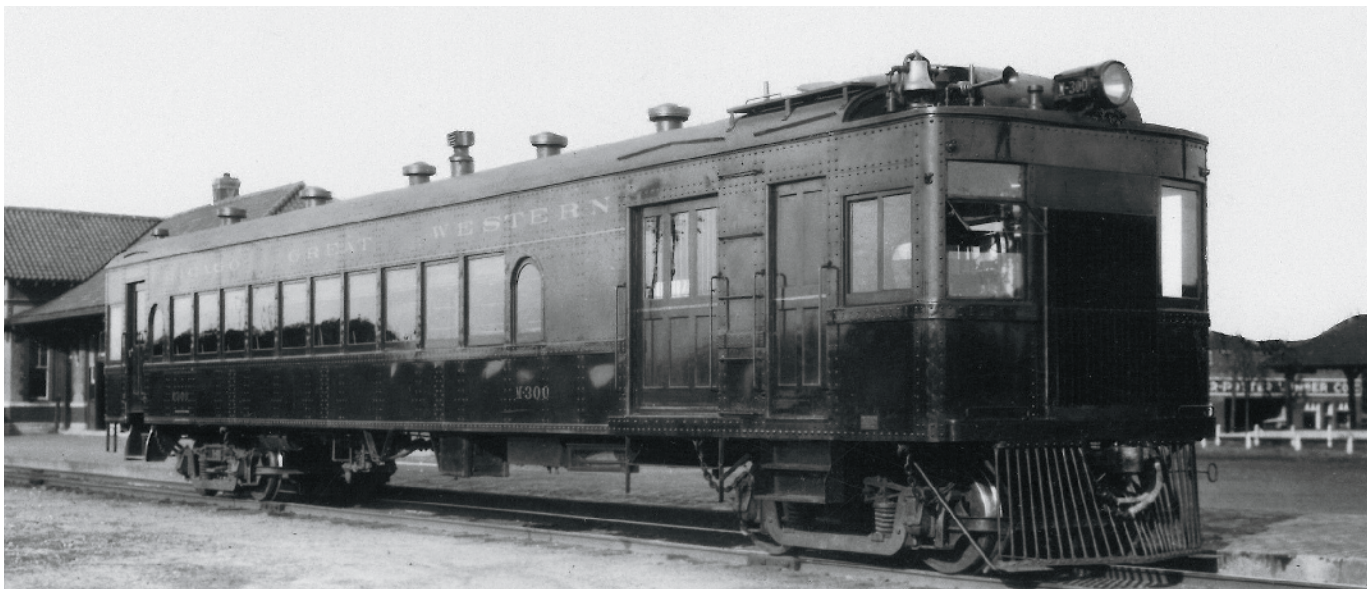
Chicago, Rock Island & Pacific, an early user of internal-combustion power, embraces the diesel with orders for two types of Winton-engined Electro-Motive B-B units: 600-hp switchers and six 1,200-hp model TA cab units that look like pocket-sized EAs for its new Budd-built *Rocket* streamliners (see page 27).

1937 A STAR IS BORN: EMC

completes B&O model EA No. 51, launching a long line of streamlined, twin-engined units that will dominate the passenger-locomotive market for decades and evolve over 1,314 units from the slant-nosed, 1,800-hp, Winton-engined EA to the bulldog-nosed 2,400-hp, 567-powered E9. EMC

1938 MORE MUSCLE FOR ELECTRO-MOTIVE: EMC introduces

its 567 engine, the prime mover that, in 6-, 12-, and 16-cylinder versions, will quickly propel the builder to the top position in North America and be EMD's standard for a quarter-century. EMD also begins production of its own electrical equipment, based on designs previously supplied by GE.



The beginning of it all: 150-hp Chicago Great Western gas-electric M-300, built in 1924, was the first railcar sold by Electro-Motive and founder H. L. Hamilton. The pioneering car was destroyed by fire. CLASSIC TRAINS collection



Gulf, Mobile & Ohio 2506 pauses at Delavan, Ill., in October 1958. The GM&O's Bloomington to Kansas City run was the longest for a motorcar in the U.S. Monty Powell, Brian M. Schmidt collection

brake system, a brake shoe falling off, or any simple thing could result in failure."

Hamilton's next move was to deal with the hostility and reluctance on the part of the railroad mechanical departments to accept the new technology. Thus was the beginning of the resident District Engineer concept: Electro-Motive field-ser-

vice employees stationed at the customer's shops to provide direct technical support. It has remained a standard practice by Electro-Motive and the other locomotive builders ever since.

Experience with the cars demonstrated that a gas-electric with a trailer coach could handle branchline operations at a

cost of \$0.30-\$0.40 a mile, compared with typical operating expense of \$0.75 to \$1.25 for a steam locomotive with coaches. Orders for the new cars began to come in and Electro-Motive was on the way to becoming a successful business. To keep up with the pace of purchases, builders Pullman, Standard Steel Car, and Osgood Bradley were enlisted for manufacturing help.

THE PROBLEMS

Hamilton was secure in the knowledge a high degree of standardization in the gas-electric cars would result in the minimum possible requirements for supporting inventory. Electro-Motive could stockpile essential parts at its home warehouse or at field locations. One spare each of the critical items could provide local protection against random failures because the equipment was the same on

1939 **NO LOOKING BACK:** Electro-Motive FT No. 103, a 5,400-hp, A-B-B-A demo set seen here at Denver on April 28, 1940, departs La Grange in November on an 83,764-mile, 35-state tour that will change railroading forever by showing that diesels can handle heavy-haul freight service. Richard H. Kindig



1941 **SUITED FOR THE DESERT:** Santa Fe FT A-B-B-A set No. 100, first FT in revenue service, hits the road Feb. 4.

1941 **PERFECT RECORD:** B&O EA 56 and EB 56X complete their 365th consecutive trip on the Washington-Chicago *Capitol Limited* on Feb. 25, achieving 100 percent availability and logging more than 280,000 miles.

each of the cars.

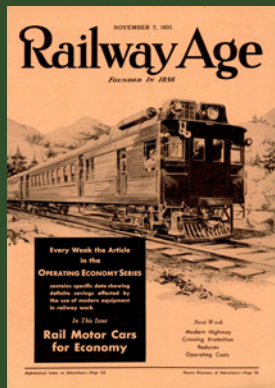
What he had not anticipated was the possibility of a fleetwide field-service problem involving critical propulsion system components on all the cars. This happened with the traction motors relatively early in production, requiring factory repair of many motors. It kept the field service staff busy for months. Further problems were identified and dealt with, but proved to be passing irritants and had little influence on the new product's success.

Hamilton's expectation that the railroad would misuse the cars had been reinforced by the experience of the initial trip on the Chicago Great Western. However, he had underestimated how completely some of the railroads might misapply them.

"In the design of the equipment we had accomplished our part of the job, but we were defeated in our efforts to sell the railroad on using the cars as we had planned (i.e. to provide an economical service that would generate new business)," Hamilton said. "Instead, they insisted on substituting them for the locomotive and head-end car of the little steam trains they had been operating. This meant that the motor car became a power plant, mail compartment, and baggage space with an occasional small passenger compartment for smoking use.

"Behind this they hauled the same coach or coaches which in endless instances had been on that particular local run when all the current travelers were children. The railroads simply treated the motor cars as a loss-reducer..."

Hamilton added, "The net result of this trend of events was that the motor car would become more and more of a



A Railway Age cover from 1931 featuring a gas-electric car. Preston Cook collection

locomotive with less revenue space and more and more standard cars being hauled behind it. Therefore, we were under pressure for more and more horsepower until we hit 900 in a single unit."

Electro-Motive management took note and in 1930 developed a small gas-electric switching locomotive, the Model 60, powered by a Winton Model 148 gasoline engine rated at 400 hp. The electrical transmission system was provided by

General Electric, with a single main generator powering four traction motors.

In essence, Hamilton admitted that his concept had been a failure, even though the product had been a success.

By the early 1930s the railroads had purchased 500 of the motor cars, virtually all of them being misused. EMC had,

however, achieved a much greater goal than simply making a successful product: It had propelled itself into recognition as a respected motive-power supplier.

GENERAL MOTORS TAKES OVER

In the late 1920s several GM executives had been visiting diesel engine manufacturers, exploring power units for their motor yachts and sparking talk of corporate expansion into the market. One of these top-level managers was Charles F. Kettering, noted designer of a wide range of automotive systems and accessories, who later became the head of the GM Research Laboratories.

He became actively involved in the design process for the Winton engines in his yacht and was also intensely interested in its engine development programs. Kettering subsequently influenced GM's distinguished president Alfred P. Sloan Jr. to consider acquiring Winton.

Meanwhile at Electro-Motive, the market for gas-electric cars was approaching saturation and sales were slowing down.



EMC demonstrator 464 is a Model 60 based on gas-electric car machinery. As the market for conventional motorcars slowed down in the late 1920s, Hal Hamilton finally conceded to the railroads interested in switchers, and produced a few of these locomotives. Preston Cook collection

1945 BIRTH OF A BEST-SELLER: As the war winds down, EMD introduces the E7 and F3. Best-selling of all Es, the E7 will total 510 units, while sales of 1,807 F3s will pave the way for the even better-selling F7.



1947 RARE MISSTEP AT LA GRANGE: EMD stumbles in responding to Alco's new road-switcher design with BL1 demonstrator 499, a semi-streamlined 1,500-hp B-B, aptly described by Trains magazine editor David P. Morgan as looking "like a cross between a cab unit and a Borden milk car." Only 58 more (designated BL2) will be built, for nine customers. EMD



CB&Q motorcar 258 works as train 56 in Peoria, Ill., in June 1958. It has compartments for baggage, mail, and passengers and is towing a combine. Monty Powell, Denny Hamilton collection



Union Pacific E2 No. LA-1, co-owned with Chicago & North Western, helped bring EMC out of the motorcar era. It sports the bulbous nose unique to that 1937 model. CLASSIC TRAINS collection

Hamilton needed a new marketing method to carry the business forward while harvesting the rest of the opportunities to sell gas-electric cars. He found it in the form of the "lease to buy" program.

Instead of trying to sell the cars in a purchase transaction where the railroad needed to come up with the cash immediately, EMC bought the car from their builder and then leased it to the railroad at an attractive rate that was comfortably less than the railroad's cost to operate a steam locomotive in the same service. This afforded the railroad an immediate savings in operating expense which showed up as

cash in their till, while it made monthly payments on the gas-electric car. When the accumulated payments reached the price of the car, Electro-Motive would then sell it to the railroad for \$1.

The stock market crash in 1929 was followed by the start of the Great Depression and the business outlook in 1930 was particularly bleak. To GM president Sloan, it was an ideal time for expansion into new product areas. The sour business environment would not last forever, he reasoned, but in the short term it would inhibit the commercial activities of diesel builders that had fewer resources. It

seemed like the ideal time to acquire Winton Engine Co. as had been advocated by Kettering. Negotiations with Alexander Winton were successful, and the company became part of GM on June 20, 1930.

Electro-Motive was one of Winton's largest customers and provided an opportunity for a further expansion. EMC by this time also had a well-developed replacement parts manufacturing and distribution network set up to support its products in the field. Sloan and Kettering subsequently pursued the acquisition of Electro-Motive. It became a wholly owned subsidiary of GM on Dec. 31, 1930.

Hal Hamilton was retained as General Manager of Electro-Motive and admitted in later years that the GM purchase had saved the company. The combined effects of the economic depression, the saturation of the railcar market, and the increasing cost of gasoline as larger numbers of automobiles were produced had all combined to put Electro-Motive in a corner.

To move forward, EMC needed a new prime mover, preferably a diesel, that would allow it to build a more powerful railcar operable on cheaper and safer diesel fuel. It also had to be consistent with the railroads' desire to misapply the product and use it as a locomotive. Given the prevailing business environment in 1930, neither Electro-Motive nor Winton had

the financial resources to pursue that goal.

As a new employee of GM in 1930, Hamilton had brought with him an impressive resume. Those achievements by themselves would have constituted a successful career for most business executives, but they were only the prelude to Hamilton's greatest accomplishments.

TURMOIL, THEN SUCCESS

On Dec. 31, 1932, the road to history took another abrupt and unexpected turn when Electro-Motive was merged into Winton, an event conveniently overlooked in GM-sponsored corporate histories prepared from the 1940s onwards. For more than two years after, Electro-Motive and its employees survived as the Railroad Products Division of Winton.

While this rapid development was transpiring, frustration was building within GM management. Kettering was becoming increasingly disillusioned with the cooperation he was getting from Winton's engineering department despite his son, Eugene, having joined the organization in 1930. Sloan was also in doubt about whether the lightweight two-stroke cycle 201A diesel would be successful. Kettering complained to him that if he could just get what he wanted out of Winton's engineering department, the new engine would do the intended job.

Partially because of these problems, the decision to re-establish Electro-Motive as an independent subsidiary to handle the manufacture of diesel locomotives was announced in February 1935.

Two more years of experience with the Winton 201A, which encountered several serious problems in its develop-

ment and early railroad service, further convinced GM executives to take development and manufacture of railroad prime movers out of Winton altogether.

GM Research Laboratories supported the development of the Model 567 diesel engine that was the replacement for the 201A. Its manufacture was moved to the plant in La Grange, Ill. so it would be where the locomotives were being assembled. The company also established a new line of electrical equipment to work with the 567 and additions were built on site to manufacture the engine, main generator, and traction motors.

Working with Alfred P. Sloan Jr. and Charles F. Kettering, and with the enormous contributions of Richard M. "Dick" Dilworth and his talented staff of design engineers at Electro-Motive, Hamilton and his associates would subsequently develop and market an array of diesel locomotives that would dominate the motive-power market for decades. It would mean the end of more than 50,000 steam locomotives on the American railroads, replaced by about half that number of diesel locomotives.

In short, it changed the way railroads looked and operated.

That process was well underway when Hamilton concluded his writing to Franklin Reck and put on his coat on to head for

The result would be the replacement of more than 50,000 steam locomotives on the American railroads with about half that number of diesel locomotives, and it would change the way that the railroads looked and operated forever.

home. He could be rightfully proud of what he and his associates had accomplished. The days of operating on a shoestring were gone; Electro-Motive was the largest builder of diesel locomotives in the entire world. As Alfred P. Sloan Jr. had commented on the opening of the Electro-Motive plant in the Chicago suburb, "This is the majesty of manufacturing. This is proof that nothing can stop the progress of diesel locomotives."

On Oct. 25, 1947, Electro-Motive celebrated its 25th anniversary with an open house at the La Grange plant, the event for which Franklin Reck's book "On Time" was being prepared. Railroad and GM officials gathered to hear a series of speakers, and Hal Hamilton gave a talk about the early years of Electro-Motive and its accomplishments since 1922.

A bronze plaque commemorating Hamilton's role in developing the diesel locomotive was unveiled. It would be displayed for many years after at the Plant One Administration Building, along with the shovel that was used to turn the first earth for the facility in 1935. ■

PRESTON COOK is a mechanical engineer with 45 years experience in the railroad equipment construction industry. He is the author of four books and more than 100 articles on railroad, marine, industrial, and military subjects.



After the motorcar market subsided, Electro-Motive transitioned to conventional locomotives. In 1937 it built six early streamlined TA diesels for the Rock Island, Nos. 600-605. Here, 604 is mated to an F7B at Omaha in July 1953. Brian M. Schmidt collection

MINNIA MODEL



Apparently unnumbered in this March 1965 view, EMD's La Grange plant switcher was built as demonstrator 1134 in 1940.

J. David Ingles, Brian Schmidt collection

A LITTLE CRITTER FROM A BIG MANUFACTURER

NTURE

40



HAS HAD A REMARKABLY RESILIENT LIFE

BY DAVID LUSTIG

We all love the unusual — something that departs from our perceived norm. In railroading, it's an Alco showing up on an otherwise all-EMD locomotive roster, or perhaps a slight variation of a paint scheme that catches our eye.

Or it could be an EMD Model 40.

A total of 11 were built between 1940 and 1943, with nine pressed into military service. Two went straight to work in the locomotive builder's plants.

For a locomotive that was in EMD's catalog (and predecessor EMC before that) eight decades ago, the Model 40 still holds up as a curiosity. Made in an era when the builder was primarily producing streamlined FTs for Class I railroads, the diminutive two-axle product looks like an engineering afterthought created from a pile of spare parts.

In fact, its prime movers didn't even come from EMD. It was powered by a pair of General Motors' Detroit Diesel 6-71 two-stroke truck motors producing a combined 300 hp. Those were connected to D7 traction motors. A Westinghouse 14-EL air brake system provided stopping power.

The Model 40's silhouette shows small hoods on each end sandwiching an overly-large-for-its-size cab that looks like an escapee from the EMD's four-axle switcher line.

While we might today find these units an anomaly in the workforce, at the time there was a great need for small internal-combustion locomotives. They did yeoman's work to support the war effort as plant switchers in industries tucked away in big cities with rail access only through tight curves and limited space. Any builder that could bolt a small prime

mover to a frame was offering units and EMD was eager to join the fray that also included Atlas, Davenport, Plymouth, Vulcan, and others.

Constructed when ordered, the little guys are not identical. Three of them have thinner frames than the rest.

Exact information can be a little incomplete. Some Model 40s have left an excellent paper trail throughout their careers, including who they worked for, when they were bought and sold, and how they were maintained. Others have quietly disappeared into history.

Nine of the 11, or 81 percent of them still exist, with several still active.

Electro-Motive demonstrator 1134 works at East Dubuque, Ill., in mid-1940. It would later wear EMD's standard white, black, and red when working as the La Grange plant switcher. Louis A. Marre collection



FUN FACT

According to the EMC instruction manual, to avoid excessive traction motor heating, the total weight of the Model 40's train should be kept down so that its speed does not fall below 7½ mph when running with wide-open throttle.

A MODEL 40 CASE STUDY: THE 'CHARLEY ATKINS'

One Model 40 that stands out is Travel Town No. 1, the *Charley Atkins*, built in 1942. The unit is affectionately named after The Los Angeles park's founder and was the first display locomotive at the museum to move under its own power since 1961.

Built for the U.S. Navy, its first assignment was moving coal and supplies at Torpedo Station Goat Island, R.I., which was responsible for torpedo construction.

According to Department of the Navy communiques, coal was brought to Goat Island by large barges from the main pier to buildings 114 and 52. The Model 40 pulled cars from the pier to an unloading tower and then to a power plant on the island.

Later, the unit was transferred to Naval Station North Island in San Diego. In 1962 it was declared redundant. Awaiting disposition, it gained another life when a surplus Navy GE 80-tonner at Port Hueneme, Calif., slated to be transferred to Douglas Aircraft Co.'s Naval Weapons Industrial Reserve Plant in Torrance, Calif., was deemed unsuitable for the assignment. The Model 40 was offered and accepted as a substitute.

The little unit worked sporadically in the LA suburb until it was donated to the City of Los Angeles Department of Recreation and Parks on March 11, 1988, by successor McDonnell Douglas. At Travel Town, it has been spiffed up and repainted, briefly enjoying an active life shuttling a short train of a couple of former Southern Pacific cabooses inside the park. Still operable, today it's on static display.

Douglas Aircraft's Model 40 works at the company's Torrance, Calif., facility in January 1976. It resides today at Travel Town Museum in Los Angeles, named for park founder Charley Atkins. David Lustig



MODEL 40: THE COMPLETE SERIES

1 Built as demonstrator **EMC 1134, s/n 1134**. Became LaGrange plant switcher, later sold to Canadian rail operations and stayed in that country the rest of its working life. It eventually wound up on Devco Railway, a coal hauler based in Glace Bay, Nova Scotia, as its No. 20. It's now at the Museum of Industry in Stellarton, N.S.

2 Built for U.S. **Rubber, s/n 1308**. Later sold to Old Ben Coal in Franklin County, Ill., southeast of St. Louis. Reported scrapped in Illinois.

3 Built for U.S. **Rubber, s/n 1309**. First assigned to the Defense Plant Corp. at the Des Moines Ordinance Plant. Later sold to Penn Dixie Cement; Consolidated Coal; and Bellaire Corp. in Zap, N.D., northwest of Bismarck. Its last commercial owner was SunPrairie Grain of Mohall, N.D. Later, it came to the Lake Superior Railroad Museum at Duluth, Minn., in 2008.

4 Built for U.S. Army as **USAX 7403, s/n 1834**. Later sold to Defense Plant Corp. as its No. 1; Buffalo Slag of Buffalo, N.Y.; and finally Cushing Stone Co. of Amsterdam, N.Y.

5 Built for Defense Plant Corp. as its **No. 2, s/n 1835**. Sold to American Steel Foundry, Calumet Steel, and Hoosier Valley Railroad Museum in North Judson, Ind., where it resides today.



3 Bellaire Corp. at Zap, N.D., in September 1992. It is preserved. Brian Griebenow, Joe Strapac collection



INTERLAKE STEEL CORP. No. 1 rests in Newport, Ky., in November 1969 wearing an attractive blue and white scheme. This elevated view shows the relatively simple roof and hood arrangements of the Model 40. Larry White, Lloyd Transportation Library collection

MODEL 40 STATS

- **Length over pulling faces of couplers:** 24 feet, 1½ inches
- **Width overall at eaves:** 10 feet, 1 inch
- **Height, top of rail to top of roof:** 13 feet, 4½ inches
- **Weight without fuel, lube oil, and sand:** 81,500 pounds
- **Weight with fuel, lube oil, and sand:** 86,500 pounds
- **Fuel capacity:** No. 2 diesel, 400 gallons
- **Wheels:** 40-inch with 6½ by 12 journals
- **Gearing:** 62:15
- **Power:** 160 hp at 1,200 rpm



1 Devco Railway 20 works at Glace Bay, Nova Scotia, in May 1976. It now resides at the Museum of Industry in Stellarton, N.S.

Dennis A. Smolinski, Lloyd Transportation Library collection



4 Cushing Stone's unit is seen at Amsterdam, N.Y. in May 1974. The locomotive remains at the facility along the Hudson River, which lacks an active rail connection. Lloyd Transportation Library collection

6 Built for U.S. Army as **USAX 7952, s/n 2284**. Initially assigned at Schenectady, N.Y. Later worked for various owners in Kentucky and ultimately Acme Newport Steel, Newport, Ky. as NPTX No. 1. Now owned by Professional Loco Services as its No. 300 in East Chicago, Ind.

7 Built for U.S. Army as **USAX 7953, s/n 2285**. Spent most of its life working for industries, including a creosote plant in Louisiana. Presumed scrapped.

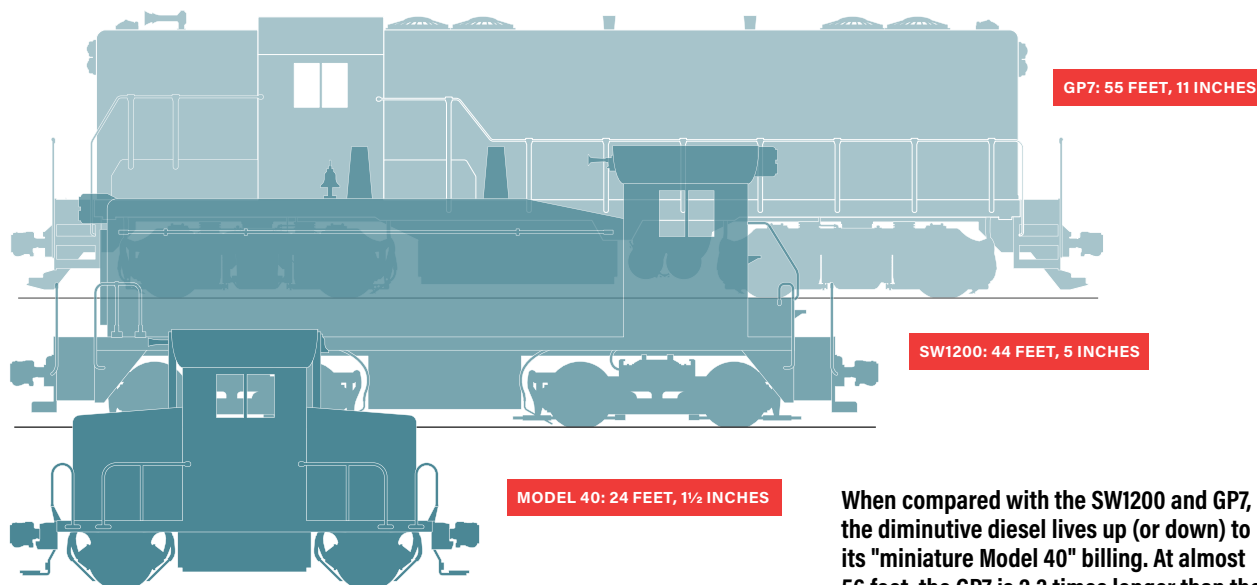
8 Built for U.S. Army as **USAX 7954, s/n 2286**. Later saw use by various industries in Pennsylvania. Today it works for Walkersville Southern Railroad as its No. 101 in Maryland.

9 Built for U.S. Navy as **No. 4, s/n 2287**. Used at Naval Ordnance Plant in York, Pa., and later by American Machine & Foundry and Harley-Davidson. Now displayed at the York County History Center's Agricultural and Industrial Museum in York.

10 Built for U.S. Navy as **No. 56-00323, s/n 2288**. Later went to McDonnell Douglas at Torrance, Calif. Retired to Travel Town Museum in Los Angeles as No. 1, the *Charley Atkins*. Rebuilt and operable.

11 Built for **EMD, s/n 2289**. Served at builder's Cleveland, Ohio, locomotive plant. Later transferred to EMD South Chicago facility. Reported as scrapped. **1**

EMD MODEL COMPARISON



When compared with the SW1200 and GP7, the diminutive diesel lives up (or down) to its "miniature Model 40" billing. At almost 56 feet, the GP7 is 2.3 times longer than the 24-foot Model 40. Roen Kelly illustration



Underdog GP30

THIS BELOVED MODEL STILL
COULDN'T BREAK THROUGH
ON SOME CLASS I RAILROADS

BY DAVID LUSTIG

The 1960s saw a three-way race for diesel locomotive sales among Alco, Electro-Motive, and newcomer General Electric. Alco and EMD offered the C424/C425 and GP30, respectively, while GE made its entry to the North American mainline diesel locomotive market with the U25B.

For EMD, the 2,250 hp GP30 of 1962 marked a departure from prior models. It featured a unique “beetle-browed” cab, as described by Jeff Wilson in his “Guide to North American Diesel Locomotives,” with a cowl that extended back to the dynamic brake blower mid-unit. It also featured a pressurized engine compartment that first appeared on the rival U25B. Finally, it marked a departure from EMD model designations that, for a brief while anyway, denoted a unit’s approximate horsepower rating.

Despite selling almost 1,000 copies, the GP30 was not a uniform hit with North American railroads. Santa Fe, Southern, and Union Pacific saw the model as a logical next-generation replacement for their motive power rosters, much of it reaching retirement age. Others bought fewer, and some dipped their motive power roster toe in the turbocharged pool with only tepid curiosity. New York Central went for 10, Atlantic Coast Line picked up nine, and Canadian Pacific opted for just a pair.



Toledo, Peoria & Western 700 leads GP18 600 and an Alco RS2 at East Peoria, Ill., in February 1965. Lloyd Transportation Library collection

One way to quantify the insignificance of these fleets: note the mighty UP opted for 40 copies of the cabless GP30B variant.

Then there were the mid-size Class I railroads, when there were such things, that either surgically sampled the new model with an eye to augmenting their fleet or were just testing the new technology to see if it was worth the investment. In that vein, Nickel Plate went for 10 units; Chicago Great Western eight; Chicago & Eastern Illinois three; and Alaska, and Toledo, Peoria & Western one each.

Part of the timidity of some railroads in the late '50s and early '60s was, besides lingering competition from Alco, EMD had a newcomer to the U.S. Class I mainline railroad market nipping at its heels; the just-introduced 2,500 hp General Electric U25B. Long a builder of all sizes of locomotives on the international market, the "Universal 2,500 hp, four-axle" design was loaded with advanced features for its day along with the company's more-robust-than-EMD model 752 traction motors.

The model designation proposed by EMD for its new creation was GP22, reflecting the approximate horsepower under the hood, similar to the GP18, GP20, and SD24 before. But with perception being key to marketing, GP22 sounded technically



Alaska Railroad 2504 rests at Anchorage in July 1979.

Keith E. Ardinger, Lloyd Transportation Library collection



Phelps Dodge 29 works at Ajo, Ariz., in May 1979. Thomas H.

Chenoweth, Lloyd Transportation Library collection



Chicago & Eastern Illinois 239 with GP35 272 at Mitchell, Ill., in October 1966. Ken L. Douglas, Brian M. Schmidt collection



Canadian Pacific GP30 5000 at Windsor, Ontario, in 1967 with a Montreal-built Alco Century. Brian M. Schmidt collection



Scarlet-and-gray GP30s at Olivette, Mo.: Cotton Belt 5006 switches solo in 1982; below: SP 5011 mingles with first generation Geeps in 1984. Two photos, Michael A Wise, Lloyd Transportation Library collection



inferior to U25B, hence a quick rebranding to GP30.

Despite selling about half as many copies as the GP30, the introduction of the GE product to the North American market shook EMD. Here was a new competitor, one not saddled with legacy thinking and designs of those that were now slowly fading into the past.

Railroads such as Santa Fe and Union Pacific bought small batches of U25Bs and when compared to the EMD product, found them either wanting or were just not really all that interested in complicating their rosters with yet another brand.

For Southern Pacific it was just the opposite, buying only eight GP30s (plus 10 for subsidiary Cotton Belt) but still finding spots for 68 U25Bs on its roster. Similarly, New York Central went for 10 GP30s, but had 70 of the rival U25B in its fleet.

In the 1960s and 1970s, North American railroads had their choice of turbocharged and non-turbocharged units when thumbing through the builder's catalogs. The thinking at that time was to use the newer turbocharged units, like the GP30, in mainline operations where they could be used efficiently, while their lesser, non-turbocharged, lower-horsepower brothers could be used to best effect on secondary lines and in peddler service where high speeds were not a priority. One exception was Phelps Dodge, which purchased nine GP30s for its New Cordelia Mine in Ajo, Ariz.

These smaller GP30 fleets showed that EMD was not always the dominant builder, as seen by the preference on some roads for the U25B over the GP30. Perhaps more important to railfans, they provided trackside observers some extra variety in their day. ■



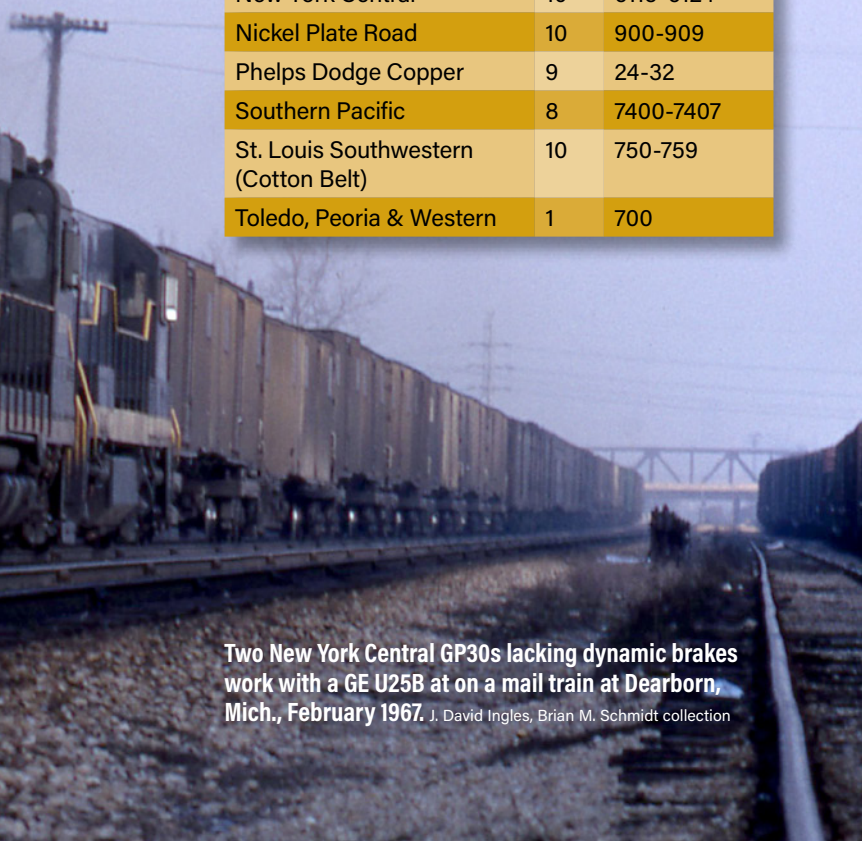


Chicago Great Western 207 leads train 192 with 167 cars at "Quigley's Cut" west of Dubuque, Iowa, on April 2, 1966.

Mark Nelson

GP30 small fleets

Railroad	Qty.	Nos. as built
Alaska Railroad	1	2000
Atlantic Coast Line	9	900-908
Chicago & Eastern Illinois	3	239-241
Chicago Great Western	8	201-208
Canadian Pacific	2	8200-8201
New York Central	10	6115-6124
Nickel Plate Road	10	900-909
Phelps Dodge Copper	9	24-32
Southern Pacific	8	7400-7407
St. Louis Southwestern (Cotton Belt)	10	750-759
Toledo, Peoria & Western	1	700



Two New York Central GP30s lacking dynamic brakes work with a GE U25B at on a mail train at Dearborn, Mich., February 1967. J. David Ingles, Brian M. Schmidt collection



Atlantic Coast Line 906 heads train 109 out of Rocky Mount, N.C., in May 1963. The road had nine units. Wiley M. Bryan



Nickel Plate 909 poses for its builder's photo. Like ACL and NYC, NKP opted for units without dynamic brakes. EMD

Aerotrain and the GP9

FANTASY VERSUS REALITY FOR TWO EMD PRODUCTS

BY BRIAN SOLOMON

Photos by
Richard Jay Solomon

My father, Richard Solomon, visited Englewood tower, where Pennsylvania Railroad crossed Rock Island, on a June 1961 trip to Chicago. There, he made several photos with his then-new Rolleiflex T camera.

These two offer a contrast in the direction of early 1960s American railroading: Pennsylvania Railroad GP9s leading a freight, and a cross-lit photo of Rock Is-

land's General Motors Aerotrain working toward LaSalle Street Station.

The GP9 represented the pinnacle of locomotive design in the 1950s. It benefited from decades of research and development. It was a reliable universal design with the flexibility to work just about any job on a railroad, singly or in multiple, on freight or passenger, on the branch, main line, and in the yard.



Although only about six years old, Rock Island's Aerotrain was looking pretty tatty as it approached Englewood.



An A-B-A set of GP9s (notice the pair of cableless GP9Bs in the middle of the consist) lead an eastward PRR freight across the Rock Island diamonds at Englewood, Illinois in June, 1961.



The GP9 successfully served the locomotive market: more than 3,600 were built for North American service in various configurations, including the cableless GP9B, seen in the photo above. More than 65 years after the model was introduced, many remain at work, often rebuilt, upgraded, and reconfigured.

GM's Aerotrain was a concept developed to gin up public excitement and offer a new generation of low-cost, streamlined passenger equipment. Incorporating the latest technology, its mid-1950 debut coincided with the those of other advanced lightweight and low-profile trains, notably Train-X and the Spanish TALGO (a Spanish acronym from Tren Articulado Ligero Goicoechea-Oriol).

Aerotrain shared styling with GM autos of the mid-1950s. Leading the train was the stunning EMD LWT12 locomotive-power car. Its heart was the rugged and tested 12-cylinder 567C engine, rated at 1,200 hp, 550 less than the 16-cylinder version powering the GP9.

The futuristic train was a head-end power pioneer; the LWT12 supplied heat and lighting for the train using dual auxiliary Detroit Diesel generator sets.

Behind it were passenger cars that consisted of enlarged GMC bus bodies riding on single axles at each end. Their specially designed air-suspension system was intended to give them a smooth ride.

Despite publicity and promise, Aerotrain remained a market fantasy; railroads were unimpressed. While it might have been cheaper to build, it was incompatible with existing fleets. Plus, by 1955 passenger railroading was on the rocks; few railroads needed new equipment.

GM built two Aerotrain demonstrators which made lengthy trial-service runs on Pennsylvania, New York Central, and Union Pacific railroads. None followed up with orders.

Passengers complained the cars were confining and the ride abnormally rough despite the novel suspension. Rock Island, which had bought a lone TALGO train powered by a GM LWT12 power car, ended up acquiring the two Aerotrains in 1958, concentrating all three distinctive power units as curiosities in Chicago-area passenger service.

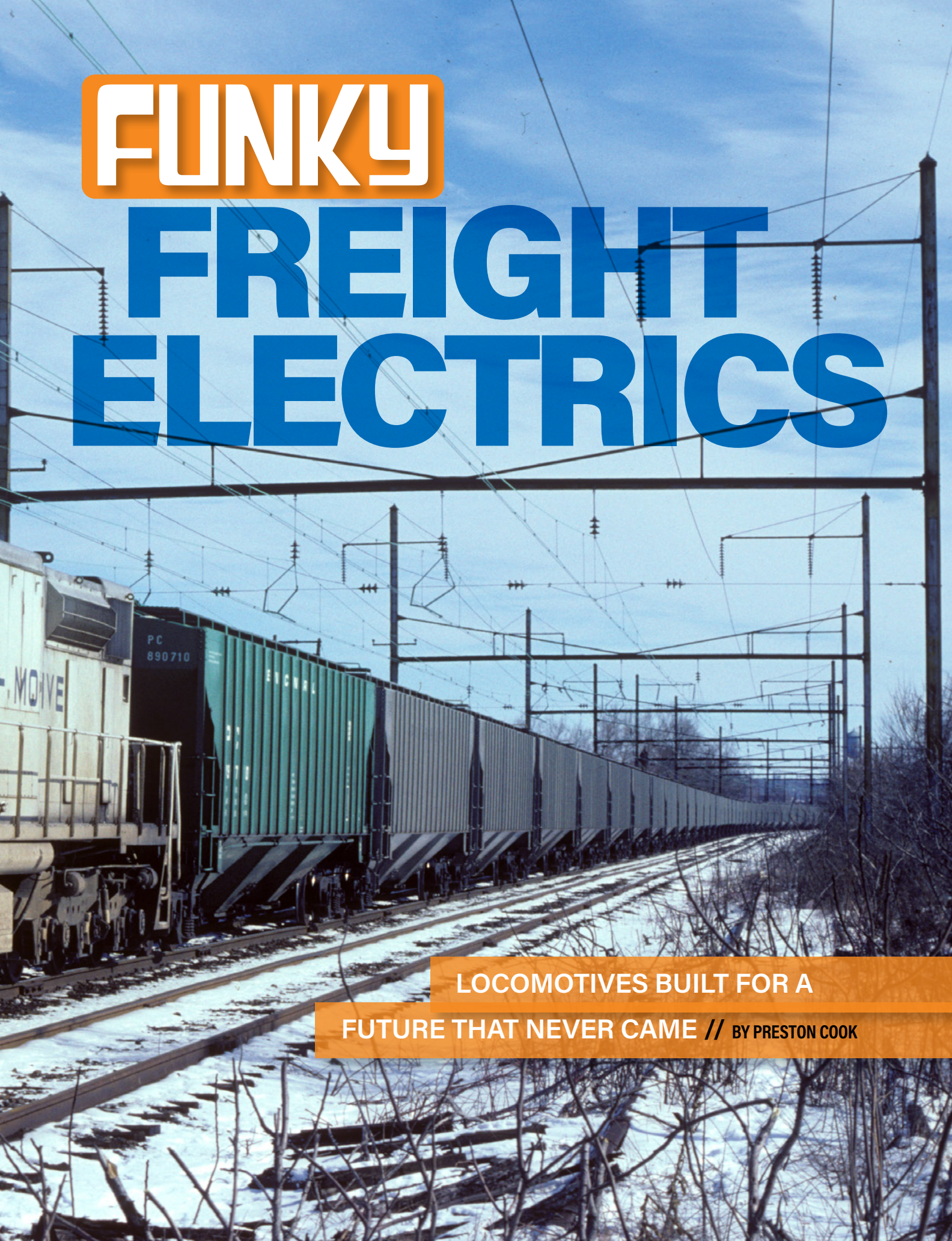
The GP9's utilitarian design set a high bar for the reliability that had come to be expected of diesel locomotives. It filled an established market need for motive power, while the Aerotrain, having failed to reinvigorate the American passenger, missed the market altogether.

Considering the automobile's great ascendancy and continued decline of rail passenger travel, I wonder what convinced the leading builder of American cars and trucks to develop its Aerotrain in the first place? ■

In a rare opportunity to show what it can do, EMD's GM6C heads a train of grain hoppers in February 1979 at Middletown, Pa.

Stephen J. Salamon,
David P. Oroszi collection



A photograph of a freight train in a snowy landscape. The train consists of a yellow locomotive with "PC 890710" and "MOIVE" visible, followed by several green and grey freight cars. The train is moving along tracks that are partially covered in snow. Overhead power lines and support structures are visible above the train. The sky is blue with some clouds. The foreground shows snow-covered ground and bare trees.

FUNKY **FREIGHT** **ELECTRICS**

LOCOMOTIVES BUILT FOR A
FUTURE THAT NEVER CAME // BY PRESTON COOK

In the early 1970s, the Electro-Motive Division of General Motors in La Grange, Ill., was a busy place. It was, at the time, the largest manufacturer of diesel-electric locomotives in the world. Its facility was running close to the maximum capacity of 5½ new engines a day.

EMD became the dominant diesel builder after overtaking Alco and General Electric in the 1930s. The dieselization of U.S. railroads had kept EMD busy for decades, and the replacement cycle for the first generation was reaching its peak.

But, during this period of great production and prosperity, storm clouds were gathering. EMD management recognized the diesel locomotive market was shrinking. Fewer, more powerful and efficient diesels were replacing older units. Management determined this would have a significant effect on EMD's sales volume by the 1980s and began looking into diversification to lessen the blow.

In 1972, I was a service engineer for EMD's northeastern region sales and service organization. At a regional meeting sales manager Warren Fox detailed markets the company was looking into.

Options included larger participation in building mining trucks and oil drilling equipment; consideration of wider use of electric transmission systems in the marine industry; and packaged power-generation units. Also mentioned were increased involvement in refrigerated railroad transport, a diesel-electric version of the Budd RDC, and possibilities for expanded use of electric locomotives.

EMD wasn't a major participant in the latter market in North America as it had very limited potential. The primary users of electric locomotives were Amtrak and Penn Central, both of which were operating former Pennsylvania Railroad GG1s. PC was also running ex-New Haven Railroad E33 and EP5 electrics and ex-Pennsy E44s in freight service.

Penn Central was broke. That left Amtrak as the largest potential customer, and it was the passenger carrier's needs that would primarily drive EMD's involvement in electric locomotive production.

In the longer term, there would be potential for electric locomotive sales to newly formed transit agencies operating on electrified segments of Amtrak and PC. EMD would partner with Sweden's ASEA (Allmanna Svenska Elektriska) to develop electric locomotives suitable for service in North America, with sufficient domestic manufacturing content to qualify for U.S. government contracts.



At the same time, other factors were developing that would have an impact on EMD's future share of the locomotive market and its development of products for the railroad industry.

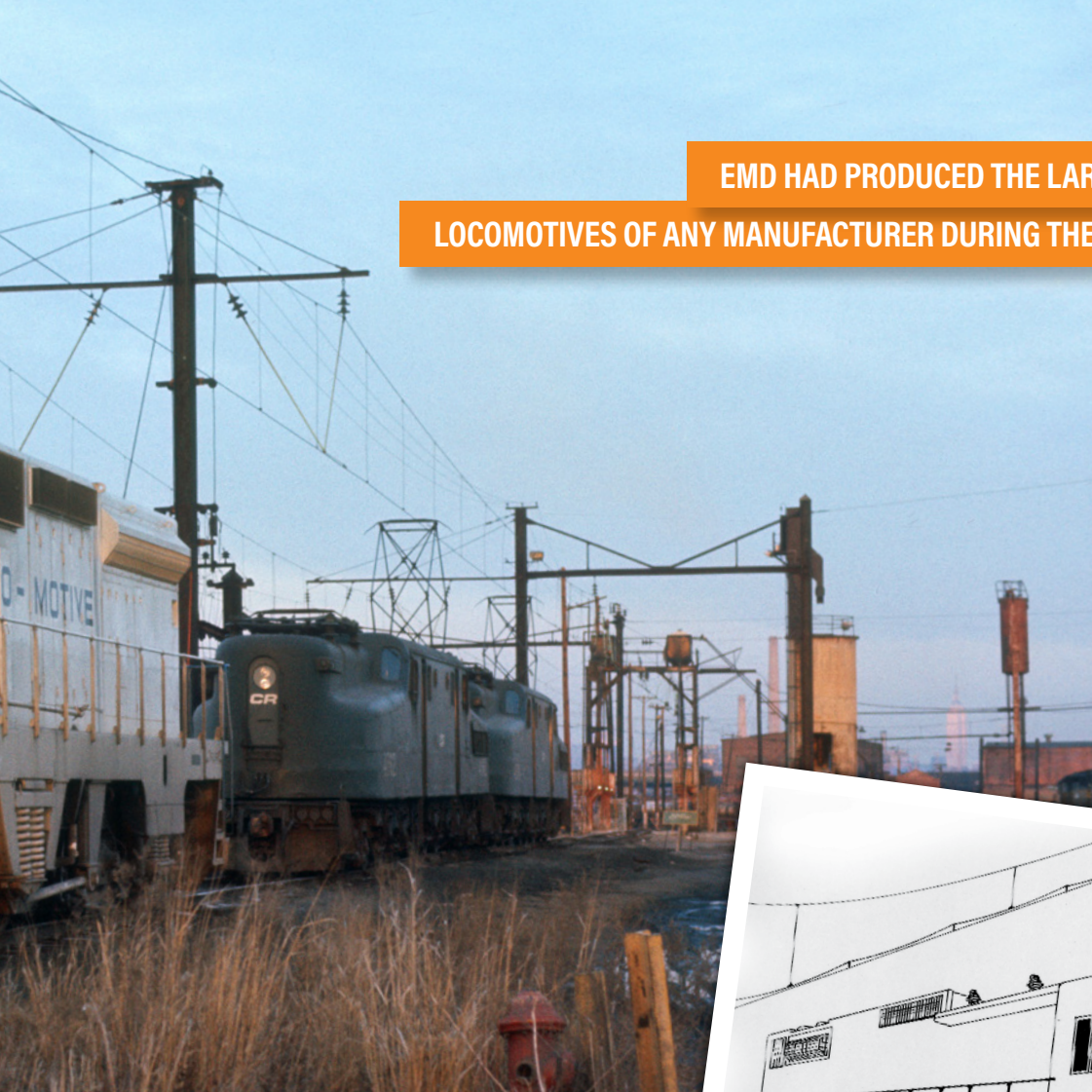
The price of oil was increasing and the supply of it less certain. EMD's diesels were known to generally have higher fuel consumption per horsepower-hour than those made by primary U.S. competitor General Electric. This trend would take a few more years to reach its zenith but would become a significant commercial advantage for GE by 1980.

In the early 1970s, though, the rapidly increasing price of diesel fuel was enough to compel several major railroads to seriously consider electrification of some of their mainline trackage. Electric locomotives were promoted as an alternative to petroleum, using commercial power pro-

EMD saw no reason to re-invent aesthetics. Save for the pantographs, the GM6C much resembled a diesel. EMD, Preston Cook collection



**EMD HAD PRODUCED THE LARGEST NUMBER OF DIESEL
LOCOMOTIVES OF ANY MANUFACTURER DURING THE EARLY POSTWAR PERIOD**



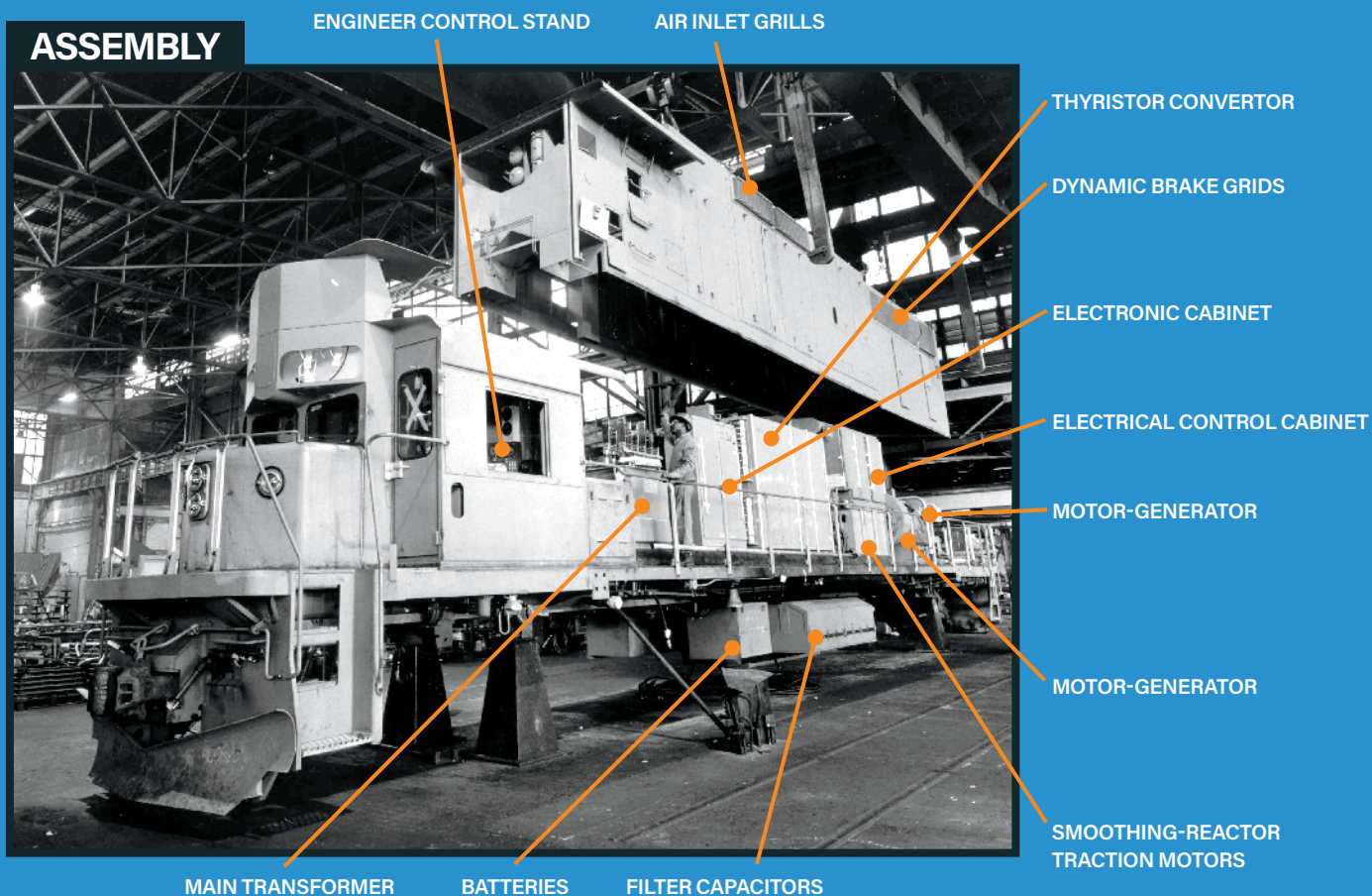
Left: Distrusted by operating departments, EMD's freight electrics did a lot of waiting. Here, on Feb. 26, 1977, GM10B is in the company of a pair of Conrail GGIs at Kearny, N.J. Jim Sorenson, David P. Oroszi collection

Below: EMD put the full weight of its design department behind the electric freight locomotive program. EMD, Preston Cook collection



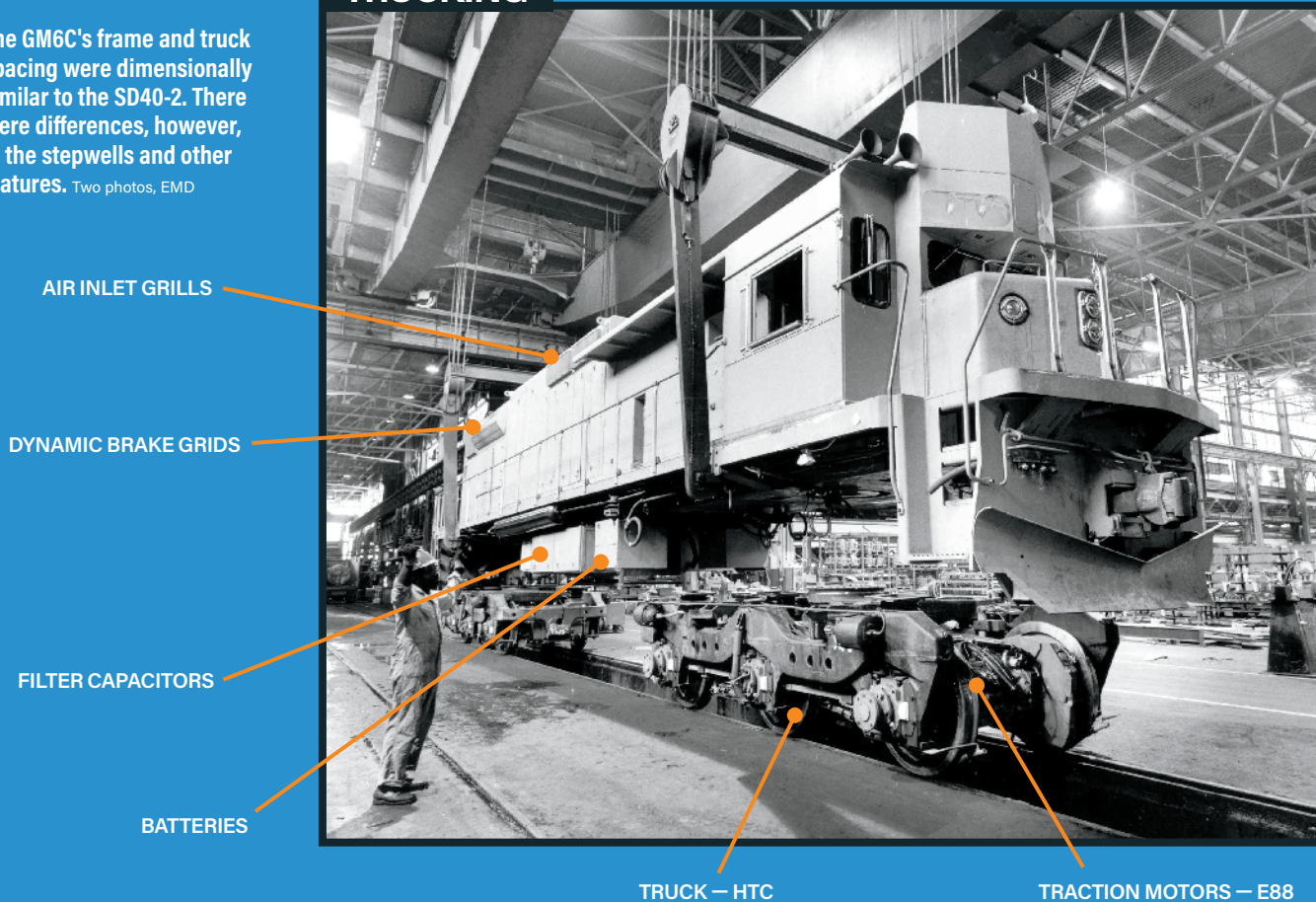
Also like its diesels of the era, the EMD sales department had dramatic illustrations of the GM10B created by commercial artist Tom Fawell. EMD, Preston Cook collection

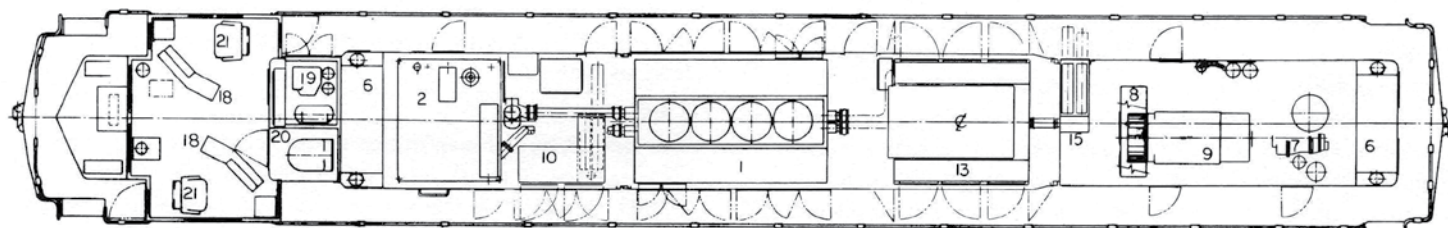
ASSEMBLY



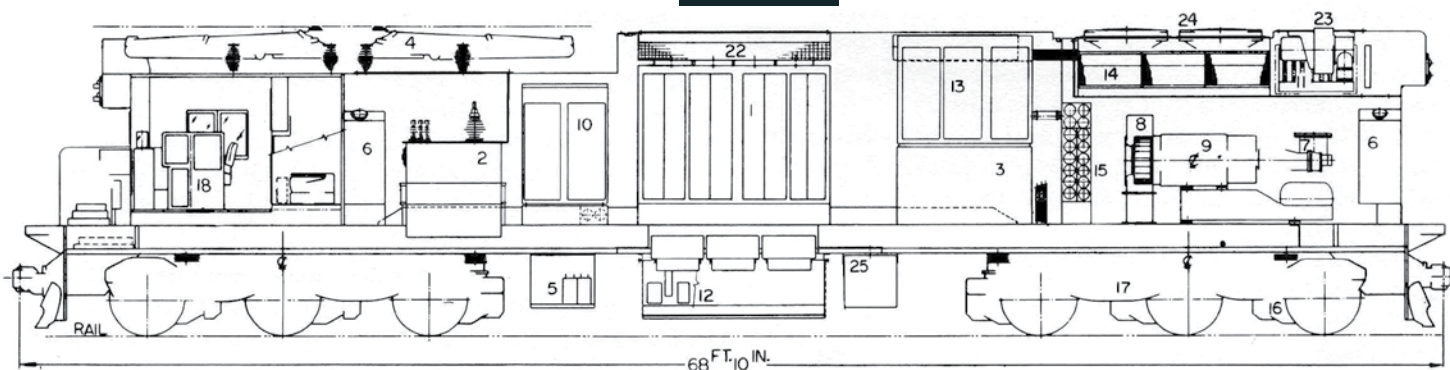
The GM6C's frame and truck spacing were dimensionally similar to the SD40-2. There were differences, however, in the stepwells and other features. Two photos, EMD

TRUCKING

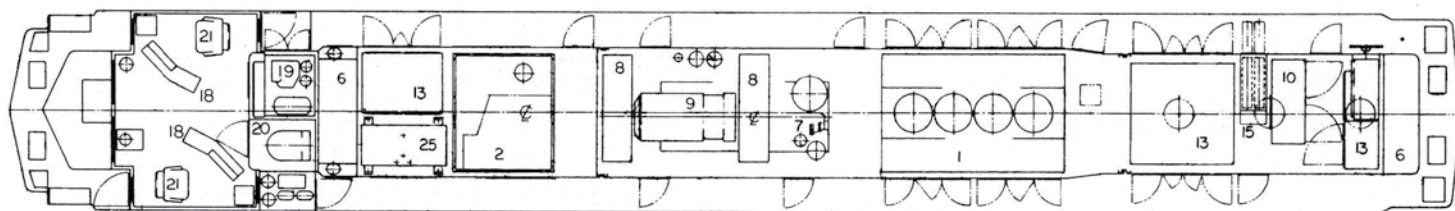




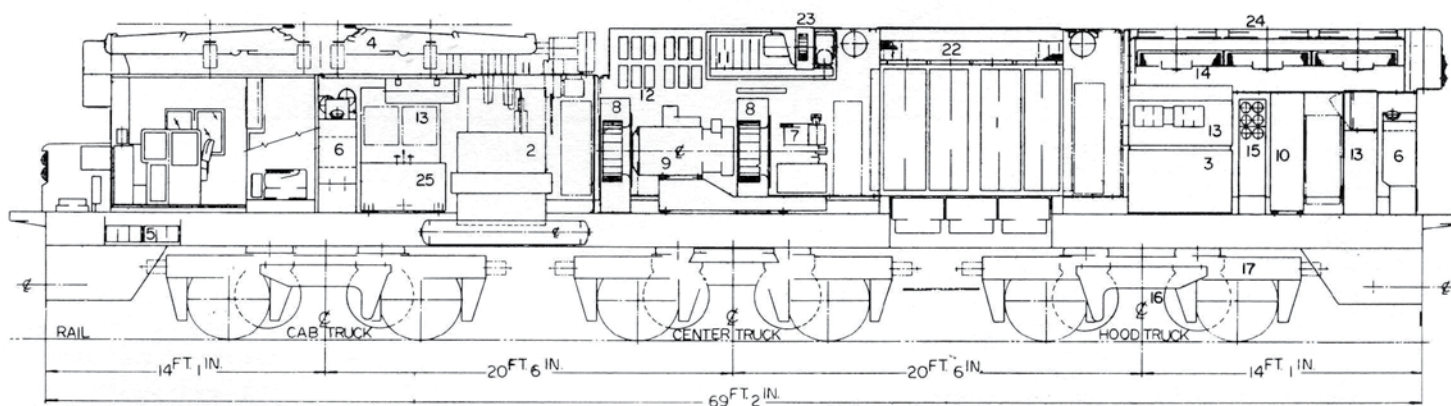
GM6C



- | | | | | |
|------------------------------|-------------------------|-------------------------------|----------------------------|---------------------------|
| 1 Thyristor convertor | 6 Sand box | 11 Inertial filters | 16 Traction motors-E88 | 21 Cab seat |
| 2 Main transformer | 7 Air compressor-rotary | 12 Filter capacitors | 17 Truck-HTC | 22 Air inlet grills |
| 3 Sm. reactor-traction mtrs. | 8 Traction air blower | 13 Elect. control cabinet | 18 Eng. cont. stand (dual) | 23 Dust bin blower |
| 4 Pantograph | 9 Motor-generator | 14 Dynamic brake grids | 19 Air brake equipment | 24 Dyn. brake cooling fan |
| 5 Batteries | 10 Electronic cabinet | 15 Elect. cabinet air filters | 20 Toilet compartment | 25 Sm. reactor-motor/gen. |



GM10B



- | | | | | |
|------------------------------|-------------------------|-------------------------------|----------------------------|---------------------------|
| 1 Thyristor convertor | 6 Sand box | 11 Inertial filters | 16 Trac. mtrs.-LJH-108-3 | 21 Cab seat |
| 2 Main transformer | 7 Air compressor-rotary | 12 Filter capacitors | 17 Truck | 22 Air inlet grills |
| 3 Sm. reactor-traction mtrs. | 8 Traction air blower | 13 Elect. control cabinet | 18 Eng. cont. stand (dual) | 23 Dust bin blower |
| 4 Pantograph | 9 Motor-generator | 14 Dynamic brake grids | 19 Air brake equipment | 24 Dyn. brake cooling fan |
| 5 Batteries | 10 Electronic cabinet | 15 Elect. cabinet air filters | 20 Toilet compartment | 25 Sm. reactor-motor/gen. |

■ More technical details about EMD's electric freight locomotives at Trains.com/ctr

duced by coal-fired, nuclear, and hydro-electric plants.

Certainly, the Penn Central wasn't enough of a market to justify a large development effort for electric freight locomotives. But when the potential needs of a group of profitable Western railroads were added, it became an option worth considering.

A BUDDING PARTNERSHIP

GM negotiated a non-exclusive licensing agreement with ASEA early in 1972, allowing Electro-Motive to access and apply the Swedish company's thyristor and power control technology for locomotive applications.

In 1973 Amtrak was looking for a modern electric locomotive to replace its aging fleet of GG1 electrics and its first Request For Proposals attracted submissions from GE as well as EMD. The latter proposal was based around the class Rc 4,800 hp "universal" freight-passenger electric locomotive first built by ASEA for the Swedish railroads in 1967. It was probably quite a shock for GE, which had for years dominated the U.S. electric locomotive market.

Built to between 84 and 88 tons, the Rc locomotives were a very small and light machine compared to traditional U.S. electric passenger locomotives. The EMD proposal was in opposition to some details of the Amtrak RFP; the passenger carrier looked but didn't buy.

The business went to GE with its E60CP, a 194-ton passenger adaptation of its family of 6,000 h.p. electric locomotives. Subsequent events surrounding the E60CP would change the Amtrak situation in favor of EMD, but that took several years to materialize.

GE began to deliver the E60CP electrics to Amtrak in 1974. It wasn't long after that crews reported the new units had some unusual ride characteristics at high speeds: episodes of violent truck oscillations with excessive vibratory yawing (truck side-to-side movements).

Then on Feb. 24, 1975, a newly delivered E60CP on a test train with a test car and seven coaches derailed at speed near Elkton, Md., bringing the problems to national attention.

The National Transportation Safety Board investigated the crash, stating in its Safety Recommendation it was due to "excessive vibratory yawing" and oscillations in the trucks.

As a result, the Federal Railway Administration was directed to monitor testing of E60CPs, making sure the issues



When they did get to run, the EMD freight electrics showed the designs were more than viable. Here, GM6C on Conrail, Feb. 11, 1979, at Middletown, Pa. Stephen J. Salamon, David P. Oroszi collection

were fixed before the locomotives could be put into service.

The units continued under investigation for several years after with modifications and speed restricted to 85 mph.

Eventually Amtrak began looking at smaller, lighter electric passenger locomotives, particularly European designs such as the ASEA Rc.

In the meantime, though, EMD was on the outside of the electric locomotive business looking in.

AN OPENING IN FREIGHT?

It was a long time between requests for proposals hitting the street. During this period where all EMD could do was wait, the Arab oil embargo happened.

Freight railroads began to get nervous about the supply and cost of diesel fuel and started taking a more serious look at

electrification. But for it to happen, the price of diesel fuel would have to shoot up and stay there to justify the colossal initial expense of erecting the many miles of catenary that would be needed.

Around 1973 the EMD Engineering Department began design work which would result in two electric locomotive prototypes: the GM6C and the GM10B. The former, which took shape in 1975, was a 6,000 h.p., six-axle unit for a wide range of applications, utilizing similar equipment to, or directly derived from, the popular SD40-2.

The GM10B was a much more specialized high-horsepower product for fast freight service. It employed an unusual B-B-B truck arrangement, with running gear much more European in profile than North American.

In both, EMD adapted whatever it



**ELECTRIC LOCOMOTIVES WERE PROMOTED AS
AN ALTERNATIVE TO PETROLEUM**



The freight electrics were built for power as well as speed. Here, a trailer train is the beneficiary of the GM6C's horsepower. Gordon Lloyd Jr.



EMD in the domain of GEs: The GM10B stands out among the grimy Conrail E44s at Meadows, N.J., in 1977. William Rosenberg, David P. Oroszi Collection



Harrisburg was a familiar haunt for the freight electrics, more for the GM10B, seen above on a test train there in October 1979. Denny Hamilton New GM6C 1975 visited July 8, 1975, rubs shoulders with a PC GG1 on an Amtrak train at right. J. David Ingles, Brian M. Schmidt collection

could of the frame, cab, and hood design practices from the diesel line, resulting in some family resemblance.

TESTING PERIOD

The GM6C began testing in 1975, the GM10B in 1976. The only practical choice for evaluation at that time was on the Penn Central, which was in the final stages of its bankruptcy and about to become Conrail. You could hardly select a more indifferent operating environment.

The railroad had no money to spend maintaining or troubleshooting someone else's locomotives, and discouraged management had its hands full just operating the basic service with its own tired equipment. The electrics demonstrated they were capable when and if they were run, but the railroad was understandably skeptical of this new, unproven product from a manufacturer with little electric locomotive experience.

It was hardly a surprise that one of the technical engineers was passed an insult by a shop manager who said that the best tool for measuring the availability of the two electrics was a stopwatch.

They did have their moments though, and one of the better features was the ride quality of the very unusual B-B-B-trucked GM10B. Several people commented on how stable the locomotive was and that it surprisingly negotiated track that was in very poor condition. One rider mentioned pulling through a yard where the rail had many low joints and watching the freight cars rock back and forth behind the GM10B which was giving little indication in the cab of how bad the track was underneath.

As the test period progressed, EMD's Engineering Department was able to get useful information back about the functioning of the new products. This was valuable for the design process of a new electric passenger unit that would be bid the next time Amtrak put out a Request for Proposals. The passenger carrier was continuing to deal with E60CP issues and the opportunity to build some new passenger electrics was soon to arrive.

Meanwhile, the overall situation for electric freight locomotives was moving from bad to worse. In 1973, in the wake of the Regional Rail Reorganization Act,



Amtrak had begun acquiring portions of the Northeast Corridor that were not already owned by regional transportation authorities. By the time Conrail was formed in 1976, the passenger carrier owned the entire corridor except for portions owned by Massachusetts Bay Transit Authority and Connecticut Department of Transportation.

In the mid-Atlantic region, Amtrak also owned the electrical distribution network on the former PRR lines, a major part of electric freight operations in the Eastern U.S.

Amtrak's mandate was to operate passenger service, not haul freight, and the Conrail freight traffic on the electrified lines was increasingly unwelcome. Amtrak initiated surcharges on electricity and car movement, and Conrail responded by moving as much of its traffic as

possible onto its other lines that paralleled the electrified routes. Conrail was retiring the electric locomotives passed along from Penn Central, except for the ex-Pennsy GE E44 units, and there were no signs that the need for new electric freight units was going to surface again.

In this environment of lack of need and neglect, the GM6C and GM10B continued to test for several years. The GM6C was versatile and was operated on many parts of the Conrail electrified system. The GM10B was more of a specialty locomotive for high-speed, high-value freight, and tended to be operated between Harrisburg, Pa., and Kearny, N.J., on intermodal trains operated at night to keep out of Amtrak's way during daylight.

While this testing was going on, significant advances were being made that would increase the locomotives' utility and effectiveness. Bruce Meyer and Gordon Itami, operating trains on the EMD club model railroad layout (ELMOD Lines) had noticed that their HO scale locomotives would produce their greatest tractive effort with a small and controlled rate of wheel slippage. They successfully adapted this phenomenon to practical application with the introduction of the EMD "Super Series" wheelslip control on the GP40X locomotives built for Santa Fe, Union Pacific, Southern Pacific and the Southern Railway.

While the predecessor Dash-2 WS10 wheelslip system had an all-weather dis-

patchable adhesion of about 18% and a best-case adhesion of around 24%, the "Super Series" control was able to increase adhesion under most rail conditions by as much as 25% over the Dash-2 level. This was bad news for the electrics, EMD's in-house diesel controls were overtaking ASEA's proprietary wheelslip control technology.

NOT A TOTAL LOSS

Conrail decided in 1982 to discontinue electrified freight operations and dispose of their remaining dedicated locomotives. This slammed the door on any prospect of a large market for new electric freight locomotives developing in the United States.

The fuel shortages and rationing were long forgotten, diesels were improving in efficiency and effectiveness, and no railroads were interested in the GM6C and GM10B. They were quietly returned to La Grange and slowly deteriorated in the back lot while various parts were "liberated" from them for use in other engineering prototypes.

Years passed, they deteriorated, and finally were relegated to the scrap yard. No museum stepped up to preserve them and their passing went almost unnoticed.

The effort that went into them was not wasted, however. Two subsequent orders for electric freight locomotives were handled by EMD associates using ASEA technology based on the experience with the GM6C locomotive.

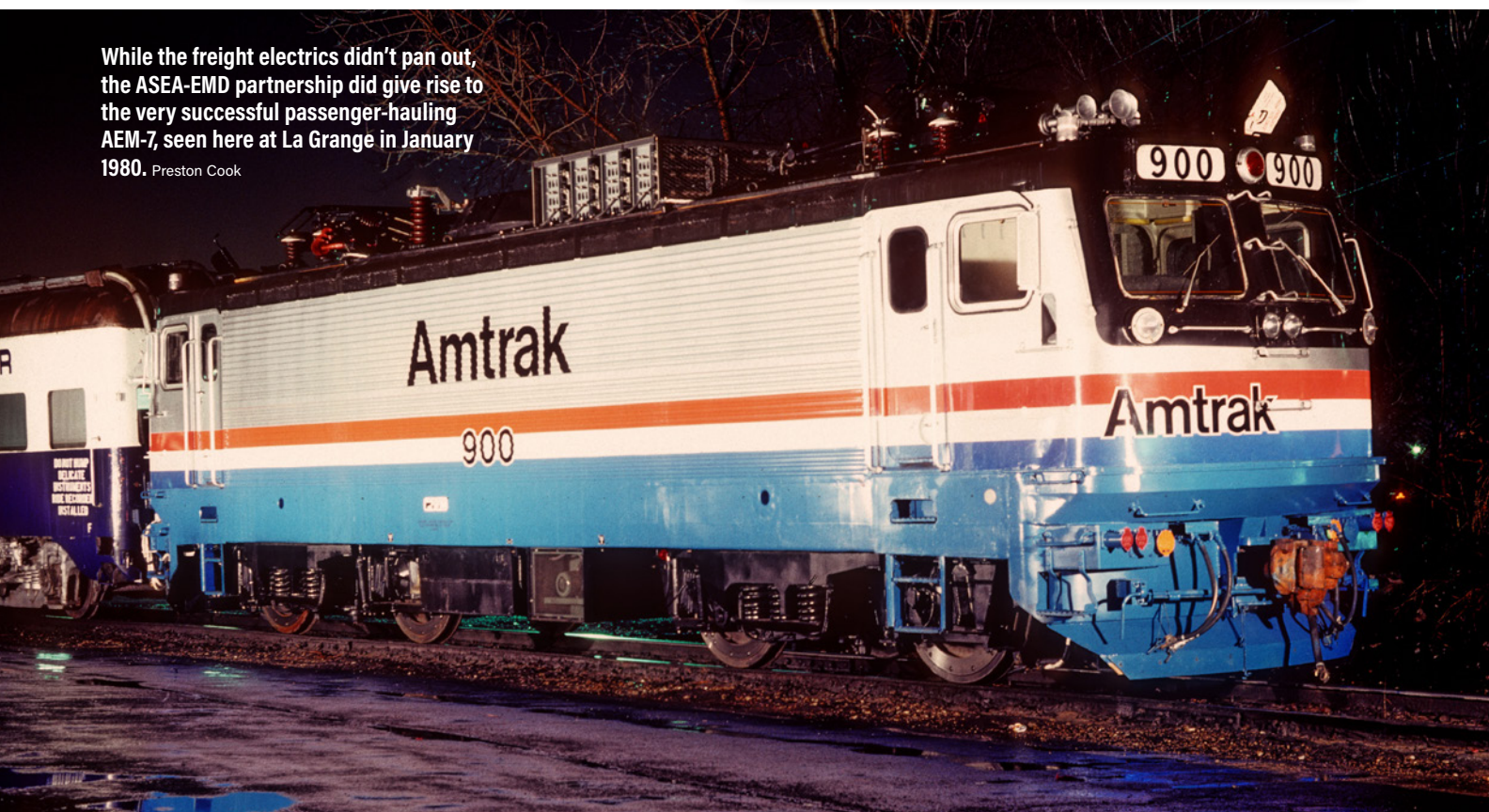
Seven derivative GF6C electric locomotives were built by GM Diesel Ltd. in London, Ontario, for British Columbia Railway in 1983-1984. EMD South Africa built 30 model GM5FC electrics in 1985 for South African Railways' coal line at Richards Bay. These were followed by an additional 15 a few years later, built by Delta Motor Corp. after GM divested itself of its South African business units.

Electro-Motive's involvement in the electric locomotive market was brief. Despite the failure to sell the GM6C or GM10B in the U.S., overall, it was successful. The locomotives produced in the EMD-ASEA collaboration proved their concept and construction to be acceptable. The AEM-7 passenger units went on to long and successful operating lives with Amtrak and several transit agencies.

Ultimately, it was the failure of the market to expand in the manner many had predicted in the early 1970's that ended the efforts to sell electric freight locomotives in the U.S. ■

**THE ONLY CHOICE FOR EVALUATION WAS ON THE PENN CENTRAL, WHICH
WAS IN THE FINAL STAGES OF BANKRUPTCY**

While the freight electrics didn't pan out, the ASEA-EMD partnership did give rise to the very successful passenger-hauling AEM-7, seen here at La Grange in January 1980. Preston Cook





McCloud River SD38-2 39 Keith E. Ardinger



Atlanta & St. Andrews Bay SD40 506 P. D. Custer Jr, Brian M. Schmidt collection



Kennecott Copper SD24 904 Keith E. Ardinger



Ashley, Drew & Northern SW1200 1205 Mike Condren, Brian M. Schmidt collection



Colorado Public Service SW9 15-1 J. David Ingles, Brian M. Schmidt collection



Nevada Northern SD7 401 James P. Marcus

EMD
CENTENNIAL

**ONE-
WON**



Georgia Railroad F3 1001 Brian M. Schmidt collection



Sandersville SW1200 200 R. H. Harrison

UNIT DERS

BY CHRIS GUSS

REFLECTING ON THE MYRIAD
OF SINGLE LOCOMOTIVE
ORDERS OF DAYS PAST



Angelina & Neches River SW1500 1500 Ken L. Douglas



Lake Superior Terminal & Transfer SW1200 105 J. David Ingles, Brian M. Schmidt collection



Duluth & Northeastern SW1000 35 Robert. C. Anderson



Seaboard (ex-Gainesville Midland) SD40 0010 Lon Coone



In the modern era, locomotive orders are typically measured in the dozens, hundreds, or even thousands of units. But orders early in the dieselization of North American railroad would often come in much smaller quantities, down to a single unit. It was commonplace decades ago when customers were more plentiful and builders were more willing to cater to their needs. While all builders accommodated single-unit orders, this story focuses on single-unit orders produced by Electro-Motive.

Why buy just one? That answer varies from a railroad sampling a new design to a need for only one locomotive at a small facility with a handful of tracks. Larger Class I railroads would sometimes purchase a single unit as wreck replacement for an existing locomotive no longer op-

erable. Depending on timing, this may or may not be the same model that was destroyed on a railroad's roster. For example, Chicago & North Western purchased a single SD40 No. 893 in late 1966 to replace GP35 No. 842 built two years earlier for the railroad. Often smaller railroads or industrial companies would purchase multiple single unit orders over several years to either spread out the cost or to purchase only when the power was needed.

Each locomotive a builder produces has a basic design with a simple set of features. From there, customers can customize to fit their individual needs, from minor changes such as a horn or bell relocation to major changes like a customized cab design such as the GP39-2s built with special high cabs for Kenecott Copper. Each change has addi-

tional costs to engineer the request into the base design and implement the change on the production floor. Single-unit orders had several options when purchasing. If a customer's needs were basic, it could either buy the base model design or, if a similar order was being built for another customer, it could add the purchase to the end of that order, potentially accelerating delivery time. Savannah River Site (U.S. Department of Energy) ordered single unit EMD GP60 and GE B40-8 locomotives on the rear of Southern Pacific orders for each. For many customers, the need for specific options to suit their operations called for a custom designed locomotive, which EMD accommodated.

In the early days of diesel locomotive production, as steam was waning, it wasn't uncommon for a railroad to sample a single unit to evaluate the new design offered by a builder. Some early examples include single-unit NW1 orders in the late 1930s for Great Northern and Chicago & North Western. Union Pacific also ordered a single E3A and E3B in the late 1930s for passenger service, numbering them LA-5 and LA-6, respectively.

As the transition from steam to diesel continued, orders started pouring in for EMD's popular early models, especially its four-axle covered wagons. The three most popular F unit designs were the FT, F3, and F7 models, but only the F3 garnered single-unit orders. Atlanta & St. Andrews Bay, which operated in Alabama and Florida, and Western Railway of Alabama each ordered a single F3 from EMD. Their six-axle cousin, the E unit, had single-unit orders as well, with Santa Fe and Union Pacific each ordering a single E3. Chicago, Burlington and Quincy subsidiaries Colorado & Southern and Fort Worth & Denver each had single-unit orders for the E5, with each



Nickel Plate GP35 910 rests at Bellevue, Ohio, in June 1965, nearly a year after the road's acquisition by Norfolk & Western. It was a wreck replacement for GP30 507. Louis A. Marre



Union Pacific acquired one each E3A and E3B for its City of Los Angeles service, numbered LA-5 and LA-6, respectively. CLASSIC TRAINS collection

receiving a single E5A and E5B locomotive. Spokane, Portland & Seattle acquired one E7 and Boston & Maine purchased a single E8.

As the industry transitioned into the hood unit era, railroads were buying EMD GP7 and GP9 models by the dozens, or even hundreds for some railroads. With the production lines burgeoning, EMD still took care of its smaller customers, with a handful of railroads only ordering a single locomotive. EMD built single-unit orders of its earliest models such as the GP7 for Aberdeen & Rockfish, Atlantic & East Carolina Railroad, Meridian & Bigbee, and St. Louis Southwestern. Other 567-powered hood units receiving single-unit orders included the GP18, GP30, and GP35. The GP18 sold to Aberdeen & Rockfish; Tennessee, Alabama & Georgia; and Toledo, Peoria & Western. Single GP30s went to Alaska Railroad and Toledo, Peoria & Western

(see page 34). Individual GP35s sold to DeQueen & Eastern and Nickel Plate Road, the latter being a wreck replacement for NKP GP30 No. 507, which was destroyed in 1963. Six-axle 567s include single-unit SD7 orders for Central of Georgia, Kennecott Copper, and Nevada Northern. Soo Line ordered a single SD9, Atlantic Coast Line picked up one SDP35, and EMD built a single SD24 for Utah-based Kennecott Copper.

The 645 prime mover era saw orders

for Aberdeen & Rockfish and Tennessee, Alabama & Georgia, each returning to EMD following earlier 567 era purchases for additional single-unit orders, this time purchasing the GP38 model. The turbocharged cousin of the GP38, EMD's GP40 model, had strong overall sales and included a single unit sold to DeQueen & Eastern, a short line located in western Arkansas and eastern Oklahoma. The SD40 had a single-unit order for Georgia's Gainesville Midland Railroad, and

Three for the Aberdeen & Rockfish: At right, GP7 205 in 1956. William J. Husa Jr. Below, GP18 300 in September 1963. Michael Dunn III Below right, GP38 400 arrives at Aberdeen, N.C., from Fayetteville on Sept. 4, 1974. Don Wallworth



McCloud River Railroad in northern California purchased a single SD38-2.

The 710-era of EMD production found the U.S. Department of Energy as a customer for one GP60 in 1991 and two separate single unit orders for Texas-Mexican Railway and would be the only single-unit orders EMD would field for this engine series as the four-axle design would slowly give way to almost exclusively six-axle purchases by large railroads for decades to come.

The locomotive design that garnered the most single-unit orders by far was EMD's end-cab switcher design. While EMD and its predecessors weren't first to

market with this design, they quickly took over the industry in sales. The first locomotive produced at EMD's new La Grange plant was Model SC No. 2301 for Santa Fe in May 1936. Over the next five years until the start of World War II, EMD would produce more than triple the number of yard engines produced by all other locomotive builders combined prior to EMD's entry in the market in 1936. During the height of EMD's locomotive production period following World War II, switcher production was shifted to EMD Plant 3 in Cleveland, Ohio, to enable La Grange to focus on its swelling road locomotive orders. In addition to overflow GP7 produc-

tion, more than 2,000 switchers would be produced in Cleveland between 1948-1954 to help EMD keep up on orders during this period.

A majority of the more than three dozen switcher models EMC and EMD would produce had single-unit orders. These spanned from the SC model in the 1930s to the MP15T, the last end-cab switch engine built by EMD at La Grange in 1987. The most popular EMD models by volume were the NW2 and SW1200 locomotives, with each exceeding 1,000 units built. For each model, there were more than a dozen single-unit orders for various customers. EMD's oddball NW5 featured an elongated frame, Blomberg trucks, and both a long and short hood, designed to house a steam generator inside for use on mixed trains or short passenger trains. The only single-unit order for the NW5 came from Southern Railway.

Customers were wide and varied, from film maker Eastman Kodak's order for a single MP15AC to Adolph Coors Brewery's single unit SW1001 order. Thanks to short lines and private industries such as chemical companies, paper mills, river terminals, steel mills, power plants, EMD's order books were full of solo locomotive purchases through the decades.

End-cab switcher sales for EMD would begin to slow down in the 1960s, though. Automation in yards would reduce the need for large quantities of switch engines, railroad mergers often meant excess power was available following consolidation, and purchases by railroads of new high-horsepower locomotives for mainline duties meant smaller first-generation locomotives would tumble to yard and switching duties. Excess power on Class I railroad rosters no doubt had an effect on single-unit sales, as unwanted first generation locomotives were far cheaper than a new locomotive for many smaller operators who may only use their locomotives occasionally or in light duty service.

EMD's ability to cater to its largest customers while still giving bit players in the industry the attention they deserve made for colorful and interesting times in the industry, giving observers plenty of variety to enjoy. ■

Chris Guss is a former railroad employee, working for Southern Pacific, Santa Fe and BNSF Railway and has been a correspondent with Trains Magazine since 2012, writing mostly on locomotive related topics. This is his first CLASSIC TRAINS byline.



Spokane, Portland & Seattle's sole E7, No. 750, sits at Vancouver, Wash., in 1968 with an F7 and dynamometer car. The road also had steam heater-equipped F3s and F7s. Brian M. Schmidt collection



Texas-Mexican GP38 865 lacks dynamic brakes and snowplow, a nod to the terrain and climate of South Texas. It also placed two single-unit orders for the GP60. Michael A. Wise, Brian M. Schmidt collection



Four Lake Erie, Franklin & Clarion units team up in April 1978. On the point is 24, the road's second SW1500. David Hamley, Brian M. Schmidt collection



Toledo, Peoria & Western GP18 600, Alco C424 800 (one of two), GP30 700, and GP35 902 (one of three). Paul C. Hunnell, Brian M. Schmidt collection



Graysonia, Nashville & Ashdown MP15DC 80 waits while KCS train 2 rolls through Ashdown, Ark., in 1985. C. K. Marsh Jr., Brian M. Schmidt collection



NYC freight operations in Manhattan

New York Central's first tri-power locomotive works on the West Side Line in 1936

BY JERRY A. PINKEPANK // Photo collection of Louis A. Marre

If today you were to stand where the unknown photographer stood in the late 1930s, looking east in Manhattan from between West 11th Avenue and West 10th Avenue, you would be in the dark under the west edge of the Hudson Yards air-rights real estate development. Tracks full of Long Island Rail Road and NJ Transit trains on either side extend behind almost to West 12th Avenue. You would have daylight behind you because the electric m.u. storage yard is uncovered west of elevated 11th Avenue. In 1936, however, this was New York Central's 33rd Street Yard, at grade with 10th, 11th, and 12th avenues.

1 Industry switching job heading back to 60th Street Yard from the still-active street trackage in 10th Avenue. Pavement running wasn't eliminated until 1941 although the elevated "High Line" had been completed in 1934 from south of 35th

Street to a new elevated freight house 2.2 miles south of 30th Street at St. John's Park. This at-grade trackage was the domain of the famous "10th Avenue Cowboys" who rode a horse ahead of the locomotive to warn motorists a train was coming along the street. Until an excavated bypass was completed in 1937 there was also street trackage with industries on 11th Avenue north from 33rd Street Yard. The 60th Street Yard was where road crews using electric freight power terminated or originated their trains; yard crews handled all work south of 60th Street.

2 Tri-power locomotive 525 was built as 1525 in 1928 by Alco-GE-Ingersoll Rand to run on third rail, battery, or diesel power, the latter serving the dual purpose of charging the batteries or supplying traction power directly. It was one-of-a-kind until 1930 when NYC received 30

tri-power locomotives from General Electric. In NYC's 1936 general renumbering the unit became 525 — the "1" on 525's nose has just been painted out, leaving "525" offset.

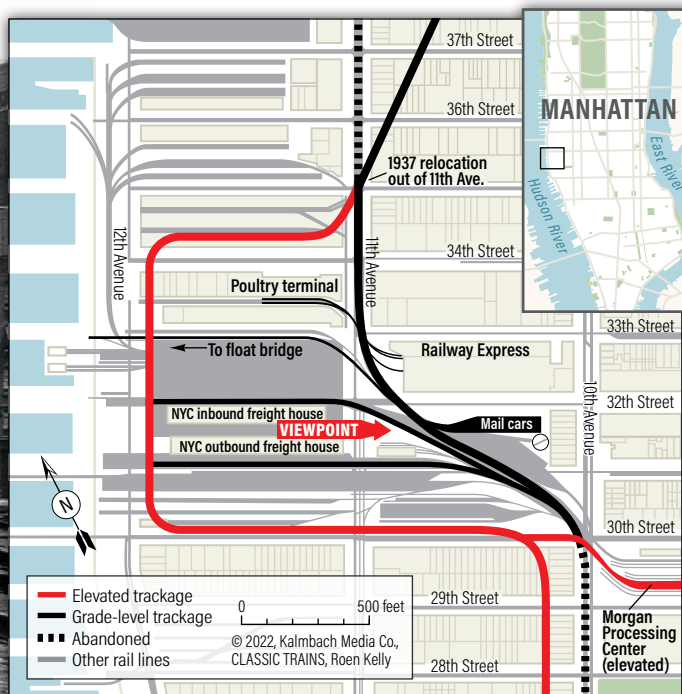
3 Lead-acid batteries are located in the snouts at both ends of the 525; the GEs of 1930 had a box cab design, leaving "525" unique.

4 Third-rail shoes are deployed and retracted by mechanisms and contactors housed in the truck-mounted boxes seen beneath the underframe at both trucks. Third rail of the West Side Line connected from where that line joins the Harmon-Grand Central main line at Spuyten Duyvil, ending at 60th Street yard.

5 The center cab on 525 housed the 300 hp Ingersoll-Rand diesel engine and GE generator,



NYC's 33rd Street Yard



essentially the same power plant as on other Alco-GE-IR diesel electric switchers of the 1920s but with the body modified to a center-cab design to allow for the battery "snouts."

6 Rutland steel underframe double-door box car 9776, probably now empty, may have brought lumber to a dealer's spur off 10th Avenue. Rutland originated 2,605 cars of lumber, shingles, and lath in 1936, 28 percent of the 9,303 carloads the railroad originated that year.

7 Santa Fe refrigerator car probably handling a load of meat from the meat packing district that extended along 10th Avenue south of 14th Street. The car probably arrived with Santa Fe-originated California produce and is now handling a return load under the Association of American Railroads' Car Service Rules.

8 Flat car with crated load for ocean shipment that is likely to be set out here for handling by a New York Central tug and barge to a pier. There was an NYC float bridge track

extending west to the Hudson River from 33rd Street Yard.

9 Tenements fronting 10th Avenue

10 Post Office Department's Morgan Processing Center, opened in 1933 to connect with New York Central mail trains. This was accomplished by six tracks from the High Line to the second floor via two overpasses spanning 10th Avenue. The front of the Morgan center aligns with 10th Avenue parallel to where the tenements in item 9 stood. Still in use today but now truck-served, the Morgan Center handles mail distribution to and from the five Boroughs of New York City with automated equipment.

11 New York City's General Post Office lies immediately west of Penn Station. It was opened in 1914 above the tracks of Penn Station. This is its southwest tower at the corner of 9th Avenue West at West 31st Street. The Empire State Building rises behind the snout of 525 at 5th Avenue West and West 33rd Street.

12 Mail cars waiting to be spotted into the Morgan Center for loading and express cars waiting to be spotted for loading at the Railway Express Agency facility along 33rd Street. With the opening of the Morgan Center, 33rd Street Yard became the origin and destination of solid NYC trains of mail and express; also, there were scheduled transfer runs between Harmon and 33rd Street to handle mail and express to and from long distance passenger trains originating and terminating at Grand Central Terminal.

13 Tracks to the inbound freight house.

14 Tracks to the outbound freight house appear rusty on both the inbound and outbound freight house tracks, and it seems that the functions of these houses had by this time been transferred to the big St. John's Park facility mentioned in the opening paragraph. The outbound freight house would have been convenient to the Garment District between 6th and 9th Avenues from West 25th to West 42nd Street but by 1936 it is likely this business had largely moved to highway transport.

JERRY A. PINKEPANK, whose 50-year career as a railroad officer, consultant, and author spans key positions and projects at Burlington Northern, Soo Line, and Burlington Northern Santa Fe. He has written numerous articles and books on various railroad subjects. A native of Lansing, Mich., Jerry now lives in Seattle, Wash.

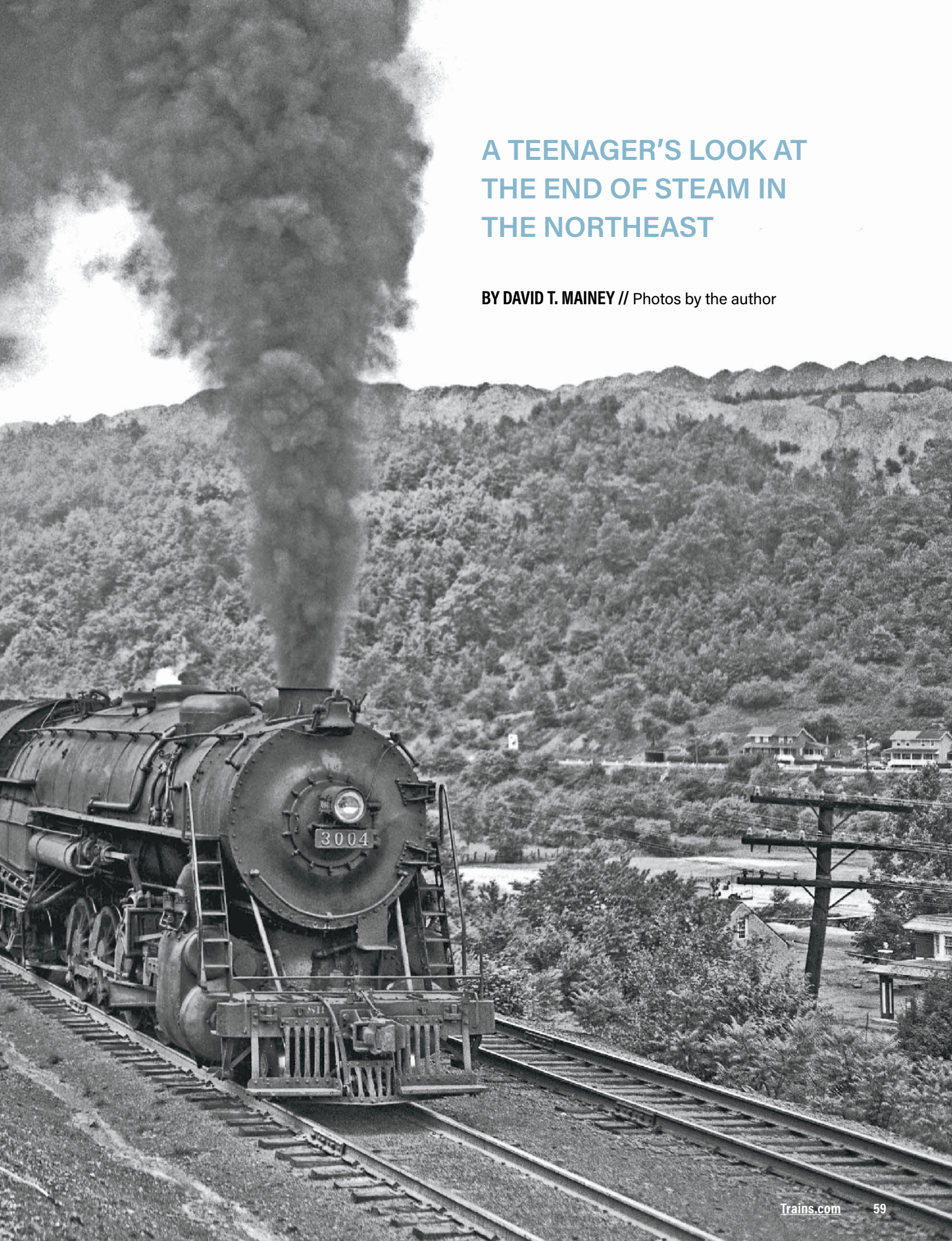
Archive Treasures

READING RAILROAD

EARLY YEARS IN THE FINAL DAYS

Reading Co.

On a trip to Pennsylvania coal country on July 10, 1953, Reading K-1sa 2-10-2 3004 works an east-bound freight at Girardville, Pa.



A TEENAGER'S LOOK AT THE END OF STEAM IN THE NORTHEAST

BY DAVID T. MAINEY // Photos by the author



▲ K-1 4-6-2 2525, pictured at Jersey City, was one of 59 Pacifics built between 1905 and 1907. Their specifications were modest compared with later K-classes, but for a few years they handled the Erie's top trains.

► K-1 4-6-2 2552 crosses the navigable Hackensack River on Aug. 2, 1951. Five years later I would have a summer job as third trick relief operator here at HX on Wednesdays and Thursdays.



My fascination with trains emerged early, neither a consequence of genes nor of living close to railroad tracks. However, my paternal grandfather, David F. Mainey, did work for the Erie Railroad in its Jersey City shop during the last decades of the 19th century — likely maintaining class D 4-4-0s and class G 4-6-0s. His accidental death in 1898 occurred before the long-lived K-1 4-6-2s rolled out of Schenectady, Rogers, and Baldwin between 1905 and 1907. So, although I never knew him, he may have had some unidentifiable influence on my — I will admit it — obsession with trains and especially steam locomotives.

Furthermore, an aunt's brother-in-law, George W. Arm-

strong, was an expert regarding Erie locomotives and helped compile an "All Time Erie Locomotive Roster" that appeared in Railroad History No. 131 of the Railway & Locomotive Historical Society. He generously taught me many things about steam engines, and especially Erie engines.

I was 10 in spring 1946 when our family moved from Paterson, N.J., to a new home just a block from the Erie Main Line in Glen Rock, N.J. In Paterson I had often waited by a dwarf signal that guarded the entry of the New York, Susquehanna & Western's Paterson Spur to the main line and watched ACF "Motorailer" cars growl by. Yet the move proved fortuitous as a later event will reveal.

Now, the whistles of Erie Pacifics — K-1s, K-4s, and K-5s



◀ Why did the steam locomotive make an indelible impression in the minds of so many? Is it the visibility of its moving parts, the sound of its effort, its display of power? This photo of a K-5's wheels and rods conveys some of this sense as it lays over at Waldwick, N.J.

▼ Three K-1s with trains are poised on Erie's 12-track Pavonia Avenue Terminal in Jersey City, waiting to start their charges of Stillwell coaches west.



— on the Main Line, and the galloping rhythm of S-class Berkshires on the Bergen County Railroad, now a part of the Erie, only a thousand feet away, filled the air.

A Christmas gift in 1947 armed me with a Kodak Brownie 616 camera, and my rail photography journey began. Unfortunately, neither the Brownie nor my skill and mobility were up to properly capture the waning but still varied Erie steam fleet in these critical last years of the 1940s. In 1950 my dad let me use his Kodak 620 folding camera — which offered aperture, shutter speed, and focus control — and my photo output increased and improved by a magnitude, but framing and aesthetic considerations were yet to evolve.

In late 1950 or soon after, I summoned the courage to in-

troduce myself to Donald W. Furler. I had discovered — I think indirectly through his photo credits in *TRAINS* magazine — that he lived only a few blocks from me in Glen Rock. Don graciously befriended me and subsequently I met Bob Collins and other railfan photographers with whom Don often traveled and photographed. Their photographic methods and perspectives rubbed off on me, and I bought a used Kodak 616 folding camera for black-and-white work and a used Kodak Retina-1 35mm camera for Kodachrome slide film.

Unfortunately, the Retina-1 had a bent frame and produced fuzzy photos when used at large apertures. Don used only a 5x7 Speed Graphic at that time, and in the fall of 1952, he loaned me his 4x5 Speed Graphic to supplant my 616.

▼ Helmstetter's Curve west of Cumberland, Md., was a Mecca for rail photographers, and photos abound. This Oct. 11, 1952, shot shows two I-2 2-10-0s mid-train helping I-2 1124, on the head end and H-9 2-8-0 pusher 835.



During this period, while both the quantity and quality of my photos increased, they followed the Furler and Collins prescription for railroad photography: action wedge shots, often with elevation, and static engine pictures. Going-away, extreme, low angle, or unusual views were rarely on the Furler and Collins menu. They stated mood as smoke, steam, and sharp focus under bright sunshine lighting.

In 1955, tired of taking poor color slides, I bought a used Leica and retired the Retina-1.

Thanks to Don and Bob, magical places I had visited only in my imagination and the vocabulary I had learned from the pages of *TRAINS* magazine became reality. They generously included me on trips to the Delaware & Hudson at Carbondale,

Pa., and the Baltimore & Ohio and Western Maryland around Cumberland, Md.

The three-hour drives to Carbondale began in Bob's Chevrolet sedan at 4 a.m., hoping to catch a train in first light. One such occasion was on the very cold morning of Dec. 27, 1951, when our shutters froze in time 4-6-0 class D-3 engine 500 with train 510 leaving Jermyn, Pa., displaying a crown of steam and smoke. Later that day, our catch included shots of several handsome D&H class J-95 Challengers working hard at Union Dale and Thompson among other spots between Carbondale and Cascade Wye near Lanesboro, Pa. Although I never saw an Erie train on this stretch of track, it was actually Erie's Jefferson Division, where class S and R engines struggled



◀ Western Maryland J-1 4-8-4 1411 handles 63 cars out of Knobley Tunnel and across the North Branch of the Potomac River on March 16, 1952, heading east for Hagerstown, Md.

▼ At Maryland Junction, just west of Cumberland, the Thomas Subdivision splits from the main line. On March 15, 1951, H-9 2-8-0s 821 and 831 are about to start their journey down the line to Elkins, W.Va., with 125 cars.



upgrade to Ararat Summit.

An earlier trip to the D&H in November 1951 provided an unforgettable memory. Our quest for finding good photo locations usually ended at the Cascade Wye, just north of Erie's stately and durable 1848 Starrucca Viaduct. On that cool November day, pushers J-95 1534 and chunky E-6a 1209 waited for a southbound train, which eventually arrived led by J-95 1523. Then magic happened.

Frankly, I don't remember any negotiations, but I was invited up on 1534 for a cab ride to Ararat. This had not been my first cab ride: that had occurred in 1905-vintage Erie K-1 2512. In contrast to the K-1, 1534's cab was huge, and I looked around for a place to stand. Fireman George A. Bursavich mo-

tioned to the seat behind him, which I thankfully occupied as we eased around the wye onto the main and coupled to the train. My 16-year-old eyes and ears were working overtime, but unfortunately my mind did not register well the details of starting a pusher on a long freight train which also involved the 1209 "kicker" engine on the rear.

Under the experienced hand of engineer Gilbert A. Hinton, I recall that we started smoothly, passed under Starrucca, and picked up speed as we neared the grade ahead. The sound grew louder as the Challenger began to work harder and the mingled exhaust from its four cylinders increased, more as a growl than a bark. Soon, after the train had attained a steady gait, Hinton motioned to me to come over to his side and sit



Delaware & Hudson

◀ Delaware & Hudson J 4-6-6-4 1529 displays a great plume of exhaust and open cylinder cocks at Cascade Wye at Lanesboro, Pa., preparing to couple to an approaching freight.

▼ D&H J 4-6-6-4 1521 and E-6a 2-8-0 1205 push a northbound train at Stillwater, Pa., on Dec. 27, 1951. At Ararat the caboose will re-join its train and head downgrade through Lanesboro.



in his seat. I sat there for several minutes, hands in lap, a bit stunned and feeling that I didn't really belong there. Aside from starting and stopping, there wasn't much to do on the right side of the cab; more activity occurred on the left.

Back on the fireman's side, the view alternated between the long string of cars ahead and the late autumn countryside. The gentle, sensuous rocking of the big Challenger and the repetitive beat of its exhaust were hypnotic. We passed over Little Starrucca Viaduct and through the small borough of Thompson before reaching Ararat where the pushers uncoupled — their work, at least for the moment, ended. I thanked the crew and climbed down 1534's vertical cab steps to the ground where Don and Bob were waiting nearby.

March 1952 and August 1953 saw trips to the Cumberland area where the B&O and WM still provided opportunities to photograph big steam. There were no cab rides, but the railroad variety was satisfying. New vocabulary — Helmstetter's Curve, Sand Patch — filled my head. Hefty WM Consolidations and Decapods along with B&O Pacifics and Santa Fes — which the railroad called Big Sixes — filled my film.

On one of these trips, probably the one in August, Don brought along a Webcor wire recorder hoping to capture sounds of trains on the Sand Patch grade. The cumbersome machine did not operate on batteries — so where to find a socket? We looked for a house near the tracks and hoped for a friendly offer of power.



Raritan River Railroad

▲ The 12-mile Raritan River Railroad ran from South Amboy to New Brunswick, N.J. Three 0-6-0s, 20, 17, and 16, haul freight upgrade from the New York & Long Branch interchange at South Amboy.

◀ Two pushers, 0-6-0 22 and decidedly older 2-8-2 14, work hard with clear stacks as they take up the rear of the freight train seen in the previous photo.



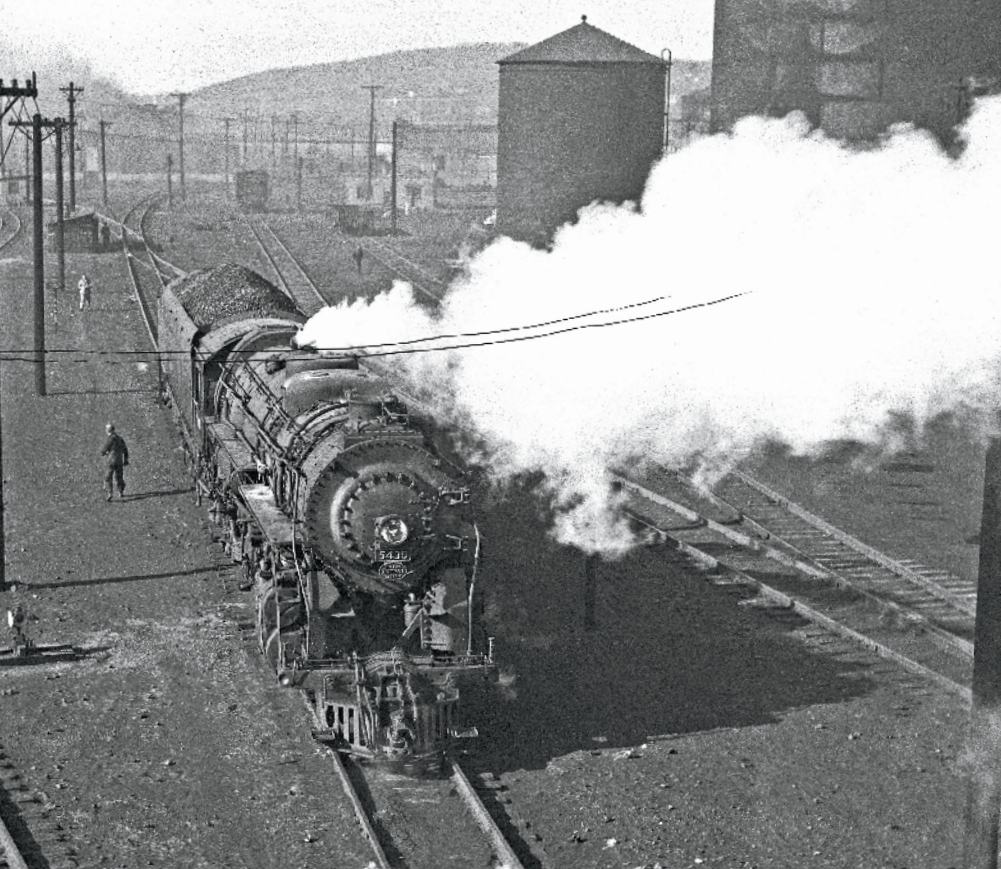
As the sound of an approaching freight intensified, we urgently sought a house, any house. Like manna from heaven, a house appeared, and we pulled into its driveway. A surprised farmer greeted us, and luckily not with a gun. Don explained what he wanted, the farmer granted his request, and the Webcor sprang to life — although the recording made that day subsequently disappeared. We pressed on over a two-day period, shooting the B&O Big Sixes and WM Challengers.

Trips out of the area were exciting. But closer to home, steam was still operating on the Erie, Lackawanna, Jersey Central, Reading, New York Central, Pennsylvania, and a few short lines. Waldwick, N.J., 5 miles from my home, was the western terminus for some Erie Main Line and Bergen County

Railroad trains, and its yard held commuter engines and cars overnight and on weekends.

My Shelby bicycle — with balloon tires, shock absorber, and a special high and low gear — knew the way to the yard with its softly steaming huddle of Pacifics, mostly class K-1 and an occasional K-4 or K-5. With impunity, I walked among, photographed, and even climbed into the cabs of these aging engines; no one bothered me.

More than once, I walked among the engines in Erie's Jersey City terminal, in the vicinity of my grandfather's workplace 50 years before. I was not invisible as I photographed hostlers and workmen, and my presence, as at Waldwick, was accepted even though technically I was trespassing. The same



New York Central

◀ The bridge to Croton Point offered a bird's eye view of the engine terminal at Harmon, N.Y, where steam and electric power swapped tasks on the New York Central main line. On Feb. 22, 1951, J-3a 4-6-4 5435 heads for the sanding tower.

▼ With the Croton-Harmon station visible in the background, class J-1b 4-6-4 5214 gains speed with train 167 beginning its scenic trip up the east shore of the Hudson River.



freedom in NYC's Harmon Yard provided opportunity to photograph iconic Hudsons and Niagaras.

Closer to my home, and within a reasonable bicycle ride, an afternoon train from Albany to Weehawken on NYC's West Shore line passed through Dumont. On one lucky afternoon I snapped the 5200, the first of the Central's much-admired J class, and cycled home especially pleased. I often shared these local excursions with my high school friends Ed Griffith and Dick Horstmann.

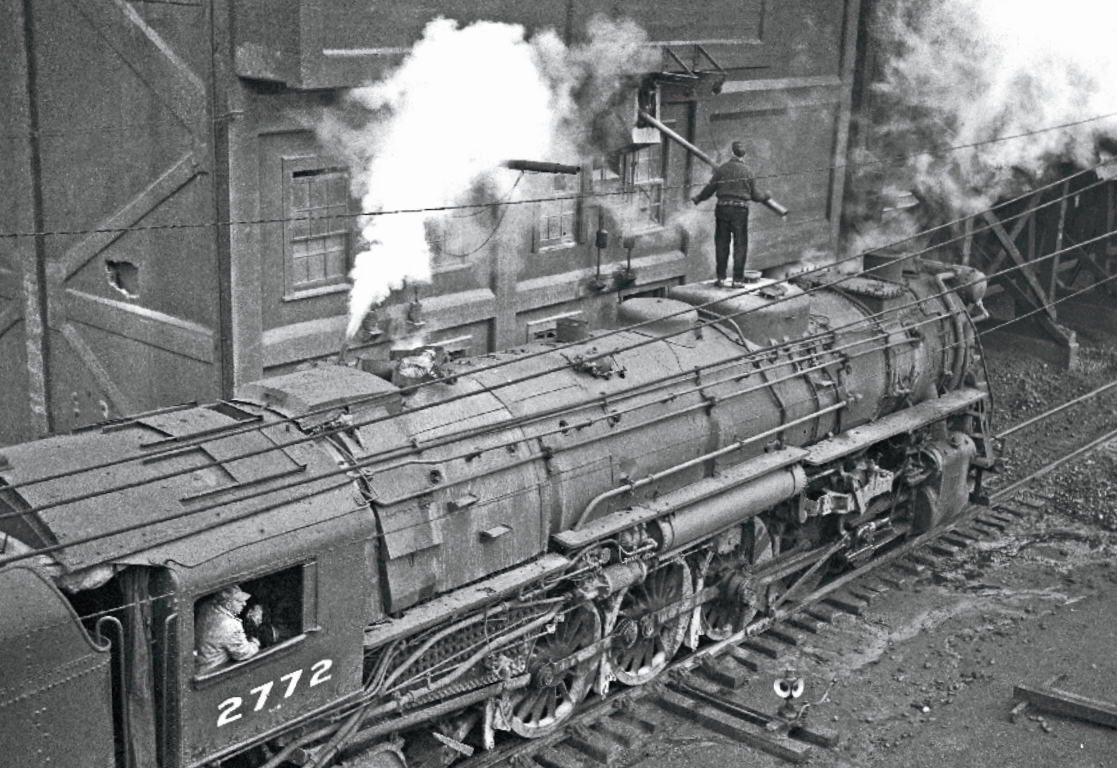
Later, after graduating from Stevens Institute of Technology (as did Ed, Don Furler, and my maternal grandfather), Ed and I would become B&O Technical Trainees. Dick later became the owner and operator of excursions on ex-Lehigh Valley

business car 353. Sadly, both friends died before they had the experience of old age.

One day, on a ride back from photographing at the Erie's Jersey City facilities, Dick had prearranged a special treat. During the stop at Paterson's River Street station, Dick and I quickly left the first car and climbed into the cab of engine 2519, a class K-1 Rogers product from 1905. We each took a few turns shoveling coal onto the hungry fire, until too soon, we reached Ridgewood where our adventure ended.

How could this have happened? Dick had befriended engineer Emil Bauman, and privileges ensued.

Other memories persist after 70 years. There were day trips to Gordon to photograph Reading's robust class K-1 2-10-2s



◀ Although as impressive as this New York Central class L-2a 4-8-2 may be, interest focuses on the man atop 2772's sand box — apparently not wearing work shoes — and the hostler with ubiquitous cotton waste close by at Harmon, N.Y., in 1951.

▼ West Shore train 8 from Albany to Weehawken, N.J., led by J-1b 4-6-4 5212, crosses the wooden Doodletown Bight trestle at Bear Mountain, N.Y., on Jan. 19, 1951.



and I-9 2-8-0s waiting their turn to produce revenue moving tonnage on the grades of Pennsylvania coal country. Closer to home was "Destination South Amboy." Its rewards included encounters with the Raritan River Railroad's fleet of ex-military, Alco-built 0-6-0s and an ancient 2-8-2. But the main attraction was Pennsy K4 4-6-2s running out their service on New York & Long Branch commuter trains.

As the end of steam on many roads neared, my friends and I crammed more photography into more days spent trackside on local lines. In just a few years ahead, I would find summer employment in the NYS&W engineering department and as an Erie third-trick relief operator. Then, beginning in 1957, I spent four years with the B&O.

While I missed my beloved steam locomotives, I have continued to photograph railroads throughout my life. But that is another story. The photographs portrayed on these pages from the early years of the 1950s reflect my early endeavors through the help and friendship of Don Furler, Bob Collins, and others, for which I am ever thankful. ■

DAVID MAINEY lives with his wife in Katonah, New York. He is in the process of transferring his photographic archive to the Center for Railroad Photography & Art.

CRPA | CENTER FOR RAILROAD
PHOTOGRAPHY & ART

ADVENT

of an amateur station agent



When E&LS took over the Milwaukee to Ontonagon in March 1980, it moved a Baldwin switcher to work the paper mill. Leased power handled mainline trains. E&LS trainmen Rouse and Marlow pose between switching moves in Ontonagon on Sept. 9, 1980.

URES

BY STEVE GLISCHINSKI // Photos by the author

WORKING ON
THE ESCANABA &
LAKE SUPERIOR IN
UPPER MICHIGAN
WAS AN EYE-OPENING
EXPERIENCE





“Culture shock” is defined as the feeling of disorientation experienced by someone who is suddenly subjected to an unfamiliar culture, way of life, or set of attitudes. I reported for duty at former Milwaukee Road depot in Channing, Mich., population around 500, in June 1980. I was unfamiliar with the term, but I would soon come to understand it thoroughly.

I’d been hired as second-shift station agent at Channing for the Escanaba & Lake Superior Railroad, which had taken over operation of the Milwaukee Road’s lines north of Green Bay, Wis., three months earlier. I was 23 years old and had no qualifications for the job, other than I was friend of the railroad’s owner, John Larkin. I had met him seven years before when we were both members of the Northstar Chapter, National Railway Historical Society.

Larkin and his father had purchased the 63-mile E&LS in 1978, then expanded it with the lease-purchase of the Milwaukee Road lines out of Channing, which the larger railroad was unloading following its 1977 bankruptcy.

I had been a city boy my entire life

and suddenly being plunked down in a tiny town was quite a shock. But when the job became available, I took it for a couple of reasons. One being I had an on-again, off-again college career that was then in the “off” mode, so I needed the money. Second, E&LS was, for a railfan at that time, nirvana. Trains were powered

orders. Having been a railfan for most of my life gave me an edge in understanding train orders, but I knew it was a complex science and feared them. Luckily, Kirk was patient, and our train orders were simple since each line (usually) only had one train a day.

Somehow, over the course of my em-

Since he was basically living in a hotel, I would call his room and if there was no answer, I began making calls to the nearby taverns. I never failed to find him . . .

by all kinds of cool locomotives: Baldwin switchers, F units of Milwaukee Road and Soo line heritage, a Milwaukee U30C, even leased Conrail SD40-2s and GP38-2s. Who wouldn’t sign up for that?

I received quick training from Kirk, the other station agent who had worked for the Milwaukee for several years until he was laid off, and chain-smoked like a chimney to relieve his stress. He briefed me on the art of crew calling — mainly learning where to find the crews — preparing and typing waybills, and train

ployment, a rumor started that I was John Larkin’s cousin, and that’s how I got the job. I kept telling everyone I was not, that I had just met him a few years earlier in the 1970s. Still, the rumor persisted, and I would always battle the “Larkin’s cousin” rumor.

A COLORFUL CAST

I soon came to know the cast of characters who inhabited the Channing scene. With a couple notable exceptions, the former Milwaukee Road employees

Channing's oil-soaked engine house tracks featured leased F7s for the Ontonagon job and two new Conrail SD40-2s for the Groveland Mine Run on Sept. 5, 1980.



fled south to Green Bay after the short line takeover. It was understandable as they would be paid less, had far fewer work rules, and, above all, had to work under a new labor agreement E&LS had negotiated that allowed E&LS men to have seniority over the former Milwaukee Road men, regardless of years of service.

I initially faced some real hostility

from some of the former Milwaukee people, but eventually that group dwindled down to a only a few. Those that stayed were among the railroad's best. One conductor, Roger, could easily have switched the Channing yard with his eyes closed.

With most Milwaukee Road crews departing, that meant hiring new people, including me. E&LS crews were, to a

man, top notch, if a bit overwhelmed that they suddenly had to contend with hundreds of miles of railroad instead of 63. But there weren't enough of them, so E&LS went looking. Among the discoveries were a couple of former Rock Island men who were available after that railroad was dissolved in March 1980.

I soon learned their idiosyncrasies. One was a great engineer, but enjoyed his liquor a little too much. I learned his hang-outs in the Green Bay area. Because he was basically living in a hotel, I would call his room and if there was no answer, I began making calls to the nearby taverns. I never failed to find him, but always several hours in advance of his call, which would give him time to leave the bar and get some sleep before coming to work. (Rule G was not as strictly enforced 42 years ago.) He never failed to report or do a good job.

The other engineer was a different story. He was well known for pulling drawbars, running a little too fast, and otherwise taking advantage of his situation as he knew the railroad really needed engineers. One night, I dispatched the "O&B Job" from Channing to Ontonagon (named for the predecessor railroad Ontonagon & Brule River), the location of a large paper mill and a major source of business for the railroad. The former Rock engineer was running; his conductor was one of our former section men who we drafted into train service because we were short of people.

Upon leaving Channing on that Saturday evening, the engineer immediately went to sleep and let his conductor do the running, which was no big deal — the track was all 10 mph. The power was two leased Soo Line F7s, and curiosity got the

Continued on page 74



Looking a bit like singer John Denver, I'm on the phone in the Channing depot on July 9, 1980. Note the old dispatcher's phone, which was no longer in use, plus waybills hanging on the wall.



Some of the Escanaba & Lake Superior's Channing crew poses outside the depot in December 1980: day agent Kirk, secretary Paula, and one of our section hands with his Dobermann.

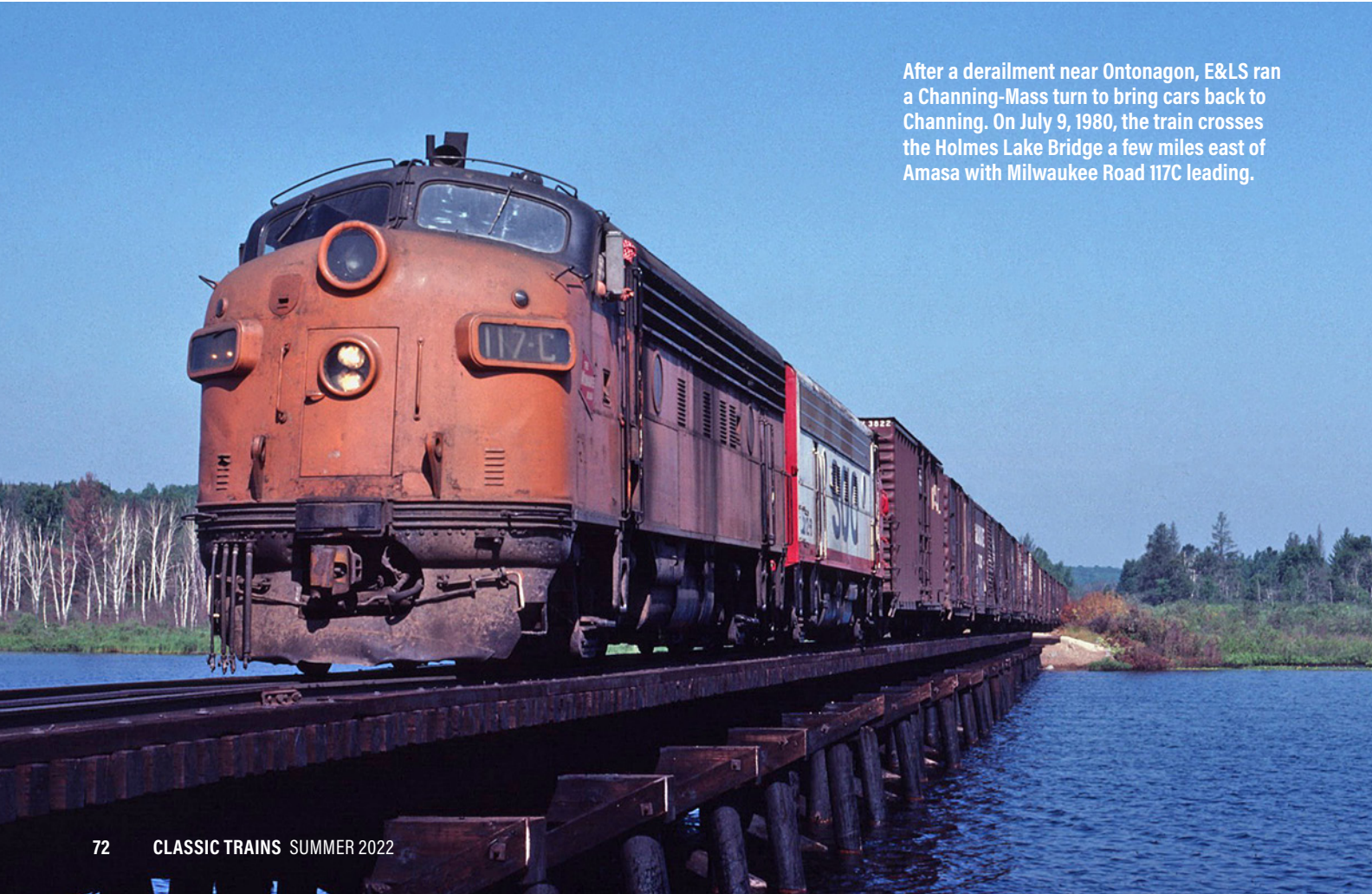


The last Milwaukee Road F7A to see service was the 117C, leased to the E&LS after the Milwaukee's 1980 embargo.

Undeterred, he crashed through the roadblock, then in a daze was arrested. He followed that up with some jail time, during which time he refused to bathe. Jailers used to shove his meals under the bars with a stick because they didn't want to get too close.



When I had nothing to do at the Channing depot, I'd sometimes drag my camera, tripod, and flashbulbs down to the engine house for night shots. Former Seaboard RS12 213, wearing paint from interim owner Michigan Northern, poses with a leased Soo Line F7 on Aug. 31, 1980.



After a derailment near Ontonagon, E&LS ran a Channing-Mass turn to bring cars back to Channing. On July 9, 1980, the train crosses the Holmes Lake Bridge a few miles east of Amasa with Milwaukee Road 117C leading.

AN ESCANABA & LAKE SUPERIOR HISTORY LESSON

The Escanaba & Lake Superior

is one of America's oldest extant short lines, tracing its history to 1898. Begun as a logging railroad, the first 7 miles of track were constructed from Wells, Mich. to LaFave's Hill in 1897 by the Escanaba River Co., a subsidiary of the I. Stephenson Lumber Co. In 1898, the name was changed to Escanaba & Lake Superior Railway, and track extended west to Watson, Mich. Through the years, several branch lines were added, including one from Wells into Escanaba proper.

In 1900, E&LS was reorganized as the Escanaba & Lake Superior Railroad, and an agreement was reached to extend the railroad to a Milwaukee Road connection at Channing. The Milwaukee then used trackage rights over E&LS to move iron ore trains from Channing to the Milwaukee's dock in Escanaba. This arrangement lasted until 1935, when Milwaukee and Chicago & North Western entered into a pooling arrangement to move ore to Escanaba. Though the E&LS petitioned the Interstate Commerce Commission and the United States Supreme Court to be allowed to join the joint operations, it was blocked from doing so by the Court in 1938.

In the 1940s, Harnischfeger Corp. built a plant on the Escanaba Branch to manufacture large construction cranes, and the Escanaba Paper Co. built a large mill just west of the railroad's Wells headquarters. The last branch lines were lifted in the 1930s, and log trains ended in 1943 with the closing of the

Stephenson mill in Wells.

With the advent of taconite ore mining in the 1950s, Hanna Mining Co. was redeveloping its Groveland Mine near Randville on the Milwaukee Road into a taconite facility. In the early 1960s, E&LS was purchased by the Hanna as a "backstop" in case the Milwaukee and its partner C&NW began charging excessive rates.

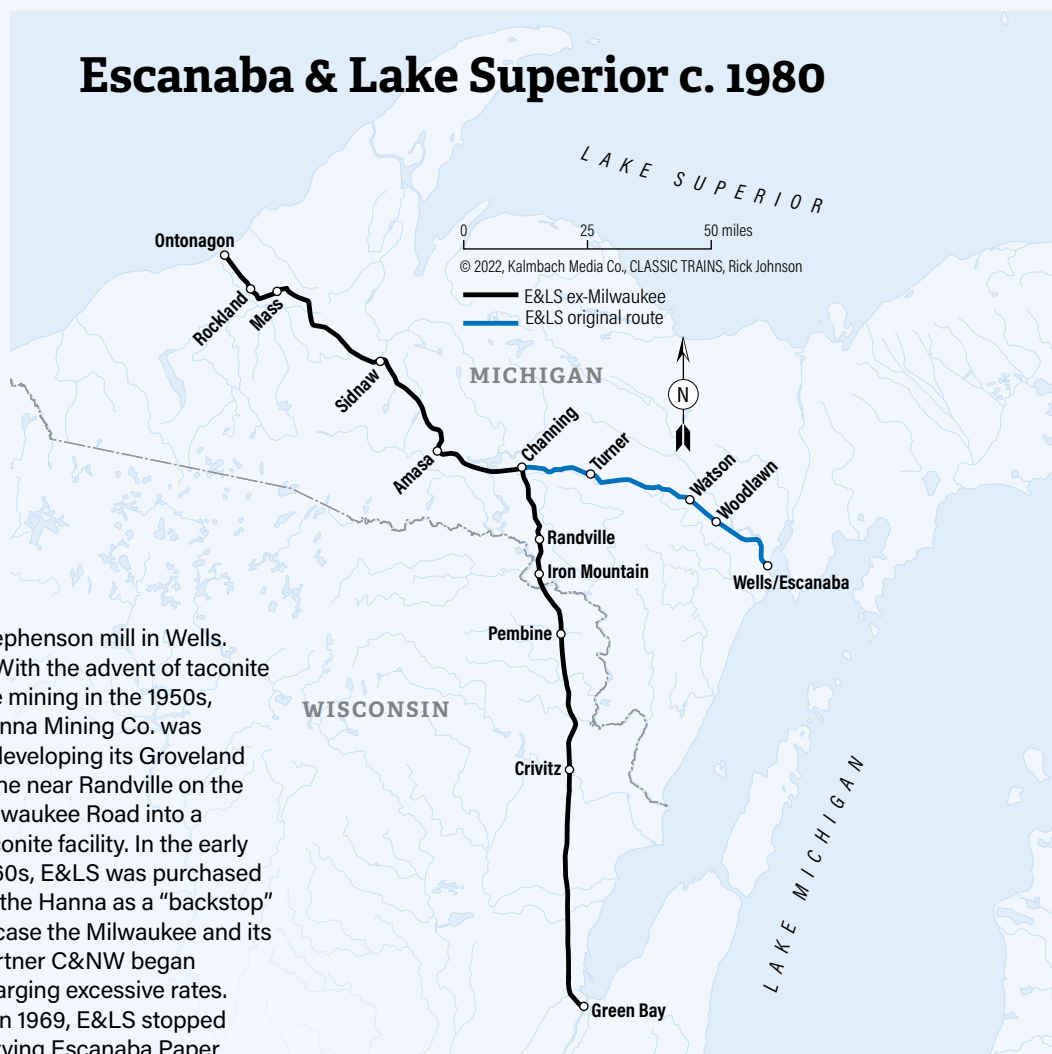
In 1969, E&LS stopped serving Escanaba Paper during a strike at the mill, and in response mill owners built a new connection to C&NW and Soo Line at Escanaba, and cut E&LS traffic to a minimum. E&LS limped along through the 1970s with local business and some loads from Harnischfeger. The railroad came to the attention of railfans at the time because of its roster of Baldwin diesels; it remained all-Baldwin until expansion in the 1980s. On Oct. 21, 1973, Minneapolis businessman and railfan John Larkin helped organize a Northstar Chapter, National Railway Historical Society trip over the railroad. Intrigued, when Hanna Mining finally threw in the towel and filed to abandon the railroad in 1978, Larkin

and his father Wade stepped in and purchased it.

In 1977, Milwaukee Road filed for bankruptcy and was looking to unload its Michigan and northern Wisconsin lines. A major shipper, Champion Paper in Ontonagon, asked E&LS to step in, and in March 1980 the railroad finally reached its namesake Lake Superior when it purchased the Milwaukee line from Iron Mountain to Ontonagon. It leased the line from Iron Mountain to Green Bay and purchased it outright in 1982. Interestingly, E&LS then served Hanna's Groveland Mine after all. Through the years, E&LS purchased several other

branch lines in the area, with most used for car storage.

In the early 1980s, major traffic sources were the Groveland Mine and the Ontonagon mill, but both have since closed. The Ontonagon mill was demolished and E&LS pulled up 12 miles of track from Rockland to Ontonagon in 2011. Today E&LS survives on local business, car storage, and a well respected freight car rebuilding operation in the old Harnischfeger complex, also home to a large fleet of passenger cars and locomotives Larkin has collected over the years, including the last two surviving Baldwin Sharknose diesels. — Steve Glischinski





With its shops in Wells, the original E&LS from Wells to Channing got busier after the Milwaukee Road purchase. RS12 213 and a Soo F7A bring the Wells Job west at Woodlawn.

Continued from page 71

best of the newly minted conductor as they approached Amasa, 20 miles west of Channing. He pushed a button, which killed the two engines. He woke up the engineer and they quickly restarted one unit, but unbeknownst to them the batteries in the other unit were basically dead, and they need two units to make Ontonagon.

I soon received a sheepish radio call, asking if I could round up some jumper cables from the Channing roundhouse and drive them over to Amasa because they had had “engine problems.” I found the cable and drove over — but was

shocked by the scene in the small town. Apparently, the arrival of two locomotives on a Saturday night was the biggest thing to hit Amasa in years. There were people literally crawling all over the units, and when I went inside the engine room of the dead unit, I was suddenly face-to-face with a well-oiled citizen who proclaimed, “This is really cool!”

Once we got the unit restarted, the engines began to back toward the train. Another visitor from the local tavern grabbed hold of the tape the Soo had applied around the nose door to keep out

snow and ripped it off as the unit pulled away from him, then turned to the crowd, holding up the tape in triumph. The conductor fessed up to what happened, and even though I was in my early 20s, I “strongly encouraged” the veteran engineer to run the train the rest of the trip.

MISHAPS AND MAGIC

Not to say that I didn’t have my flaws. The crews never failed to remind you if you screwed up, and one day I committed a radio faux pas. The railroad served the Groveland Mine, which produced taconite pellets for Hanna Mining. The E&LS took the taconite trains from the mine to interchange with the Chicago & North Western in Iron Mountain, 14 miles south of the mine.

One day when I was on morning shift, I called the train on the radio. The conductor answered; I asked him how he was doing. Then, like a phone call, I said, “Is Pete (the engineer) there? Well, of course he was there, we only had two-person crews! Howls of laughter tore through the radio as Pete answered my call and all the other train crews soon knew what happened — and never let me forget it.

One time, being an “amateur” I made a mistake that could have had serious consequences. Being a train-order railroad, we would issue them to both trains and section crews when they were working on the track. One day, I simply gave an order to a section crew to work be-

Passing the ex-Milwaukee Road depot at Amasa, scene of the “dead engine” incident described on this page, a pair of Soo F7s are about to make a pick up before heading to Channing, Sept. 9, 1980.





After I lined up three F7s for the train to Ontonagon, I had the crew pull out to the west yard limit at Channing so I could get this shot. Once the train departed and with nothing more to do at the depot, I chased this train west out of Channing on Sept. 5, 1980.

tween Channing and Sagola on the Green Bay Line. Then a couple of hours later I wrote another order to the train leaving Channing for Green Bay — and forgot that I had given one to the section crew. The train, which was short that day, had left Channing when I suddenly remembered. Thanks to the radio in the depot, I was able to reach both the train and section crews to give them a warning.

Luckily train speeds were low then, which would have given the section men ample warning, but that wasn't an excuse. I got a well-deserved chewing out from

refused to bathe. Jailers used to shove his meals under the bars with a stick because they didn't want to get too close.

Nonetheless, he was one of the hardest working track laborers we had. One day, I got a radio call from him which went something like this:

"Calling the Channing depot, over."

"Channing over," I replied.

"Steve, could you call a tow truck and send it out on the Turner Road a few miles east of town, I've got a problem."

"OK, I'll do that, what's your problem?"

"Well, ah, I'm upside down," he replied.

out of the truck. He was back at work the same day.

At that time our radio coverage was spotty at best, particularly on the Ontonagon line. One of my finest hours was trying to reach one of our section foremen. He was driving from Channing to Ontonagon and was out of radio range. I knew what time he had left Channing and needed to reach him, so I calculated how far the drive was from Channing to Sidnaw. The section crews almost always stopped at a gas station in Sidnaw for gas and a snack, so I called the gas station.

"Hi, this is Steve from the E&LS Railroad. Is Dave, one of our guys, there in the station with his truck?"

"Why yes, yes he is," answered the gas station attendant.

"Good. Could you put him on the phone?"

"This is Dave."

"Hi, Dave, this is Steve in Channing."

"How the hell did you know I was here?" he exclaimed.

"Magic!" I replied.

I was driving a 1972 Ford LTD that my parents had passed down to me. It ran fine but had one troubling tendency: the wheels would fall off.

both crews, and from that time forward made sure I went through my train orders thoroughly and carefully.

Our section crews were a different breed. One section man, before coming to the railroad, had been involved in a high-speed car chase with police, who ended up setting up a roadblock to stop him in Crystal Falls, Mich. Undeterred, he crashed through the roadblock, then in a daze was arrested. He followed that up with some jail time, during which time he

"Come again, you're upside down?" I inquired.

"Yes, I missed a turn out here, I was going a little fast, and I rolled the truck. I'm OK, but I can't get out. I'm strapped in, but I'm upside down," he said.

"Roger that. I'll make sure to tell the truck to hurry," I replied.

Fortunately, the section foreman heard the conversation (as did the home office in Wells who called me on the phone), and raced out to cut the forlorn worker

PLENTY TO SEE AND DO

Being a city slicker, I was unfamiliar with the full impact of deer hunting season each November. Virtually all the train crews and section men were hunters. In a small town it was a big deal to bag a buck, and, if you got one, you liked

to show it off. So, one day I watched in curiosity as one of our section foremen drove down Channing's main drag with a big buck on the front of his brand-new pickup. There was a set of windows on the street side of the depot where I could see him driving back and forth several times showing the town his prized deer.

But then the truck came into view again, and the entire front end of it was smashed in. He pulled into the depot and came inside where I asked him what had happened. You can probably guess. "I was on the outskirts of town and I hit a deer," he said. In this instance, it seems the deer had the last laugh.

When I wasn't working, and since I didn't really know anyone, I photographed trains. If I worked the morning shift, after it ended I would sometimes shoot the trains I helped put together. Being an employee, I was able to carry a radio to talk to crews. I could also ride trains, and in some instances could even run them. (This was well before the days of engineer licensing.)

I ran a pair of Conrail SD40-2s from the mine to Channing, did some switching in the yard, and moved engines around the Channing servicing area. On one memorable evening in September 1980 I ran a set of two F units from Sidnaw to Amasa on one of their last trips before being returned to the Soo Line and traded in on GP38-2s. The conductor drove my car while I ran, with the engineer watching over me at 10 mph.

The train crews got used to seeing me out chasing their trains, but I soon developed a well-deserved reputation for car trouble. I was driving a 1972 Ford LTD that my parents had passed down to me. It ran fine but had one troubling tendency: the wheels would fall off.

One morning I was highballing down the Kieran Road west of Channing in hot pursuit of an eastbound train from Onto-



The same Mass Turn seen on page 74 passes the old station sign at Balsam in July 1980. Chicago & North Western's branch from Crystal Falls to Amasa crossed here until 1938.

The rain is pouring down at the Channing engine house on the night of Aug. 31, 1980, with Soo Line and Conrail power congregating on the oily tracks.





In May 1980 E&LS owner and President John Larkin serves as conductor on the Wells Turn passing an old coach at Turner, Mich., on the original E&LS main line. Because it handled heavy ore trains into the 1930s, E&LS was built to a high standard and could easily handle leased SD40-2s.

nagon with three F units — two Soo Line and one Milwaukee. As I tore down the road, I hit a big bump in the road — and for a millisecond I looked in horror as my right wheel shot off into the woods. Like an old “Looney Toons” cartoon I was able to utter an “uh-oh” before a second later the car hit the pavement. This time I used my radio to call the Channing depot for a tow to a shop in Iron Mountain, where a mechanic informed me that I had a “ball joint problem — it broke.” He was able to put a new one in, and the car was none the worse for the wear, except for the scrapes on the body where it hit the pavement.

But that wasn’t the end of it. A few weeks later I was in the drive-through window at a bank in Sagola, just south of Channing, making a withdrawal. I started to pull ahead when the ball joint on the left wheel gave way and the car slumped to the ground on top of the wheel, which was sideways. I pushed the call button and told the teller “I think I’m going to need some more cash.”

The mechanic replaced this ball joint as well, and I was soon back at work with the car. But word had gotten out. When crews reported to the Channing office, I would routinely drive them up to the head end of the train after they had received their paperwork. But no more. As one conductor told me “I’m not riding with you anymore, or any one who drives a car where the wheels fall off. I’d rather walk — it’s less risky.”

Small towns sometimes have a reputation for being closed-minded, but that

wasn’t the case in Channing. Right next door to the depot was a “beanery” — Channing’s only full-service restaurant (there was a bar of course, but the food wasn’t that great). Being right next door, I spent many hours eating there and when I couldn’t do sit-down, the owners gladly brought food over to the depot for me.

A MORE FORMAL EDUCATION

In December 1980, I decided six months was enough time working on the railroad, so I called it quits and returned to college. I wasn’t done with E&LS, however. Now that I was an “experienced” agent, I was able to come back a few

closed in 1981 and the Ontonagon paper mill closed at the end of 2009.

With the closure the railroad tore up the track from Ontonagon to Rockland. Much of the remaining portion of the line is used for car storage. The original Wells-Channing E&LS line has been dormant for years. While some parts are used to store cars, most of it is grown over with trees and bushes. Still, the E&LS still survives with business on the Green Bay Line, car storage, and especially well-respected freight car repair business based in Escanaba. It’s a different railroad, but still one of my favorites, thanks to my memories of working as a station agent.

Being an employee, I was able to carry a radio to talk to crews. I could also ride trains, and in some instances could even run them.

times to work vacation relief at Channing, at the home office in Wells, and the depot in Ontonagon, but none of these jobs lasted more than a couple of weeks. In autumn 1982, when I returned for a short time to work some vacation relief, I even got to run Baldwin Sharknose No. 1216 that was leased to the railroad for a time. I finished my long college career in 1983 and moved on to other jobs.

Since the 1980s, the railroad has changed. While E&LS track has been rebuilt and is far better shape than when I was there, the railroad has faced some tough headwinds. The Groveland Mine

In 1991, I was back on the E&LS to photograph some trains and ran into one of the old section men in a gas station near Channing. He looked at me and said “I remember you, you worked in the depot. You’re Larkin’s cousin!” I just nodded my head and said, “Yes...yes I am.” ■

STEVE GLISCHINSKI is marking his 50th year of “seriously” photographing trains, having received a slide camera from his parents in 1972 at the age of 15. He has been a correspondent for TRAINS magazine since the early 1990s and lives in Shoreview, Minn.

This ubiquitous steam locomotive was at home pulling freight or passenger loads

ERIE // Extra 3156 West departs
Marion, Ohio, on the Erie Railroad. Baldwin built a total of 40 N-3 Mikados for the Erie in 1923. H. W. Pontin photo



THE DO-IT-ALL 2-8-2 MIKADO



The 2-8-2 type steam locomotive was the first with a firebox behind the drivers and supported by a trailing truck. The model was originally conceived and constructed by Baldwin Locomotive Works for Japan's narrow gauge Nippon Railways. It was dubbed "Mikado," a term that referred to the emperor of Japan.

The first U.S. Mikado was a 50-inch-driven Baldwin built in 1901 for the Bismarck, Washburn & Great Northern. In 1902, Baldwin delivered 15 of the type to the Santa Fe.

During World War II, several railroads tried to redesignate their 2-8-2s "MacArthurs," but the name didn't stick.

More than 14,000 2-8-2s were built in the U.S. and almost 10,000 worked in North America. At their high-water mark, 20 percent of the locomotives in the U.S. were Mikados.

The biggest user was New York Central with 715 (counting subsidiaries the number swelled to 1,387). Baltimore & Ohio trailed with 610 and the Pennsylvania had 579.

Denver & Rio Grande Western had the last Mikado in regular service on a Class I railroad. It served the narrow-gauge lines in Colorado and New Mexico.

ATSF // Santa Fe No. 3243 moves a freight extra westbound at milepost 54 near Summit on Cajon Pass in the early 1950s. It's one of 128 Mikados in the 3160-3287 series built by Baldwin between 1917 and 1920.

Classic Trains collection

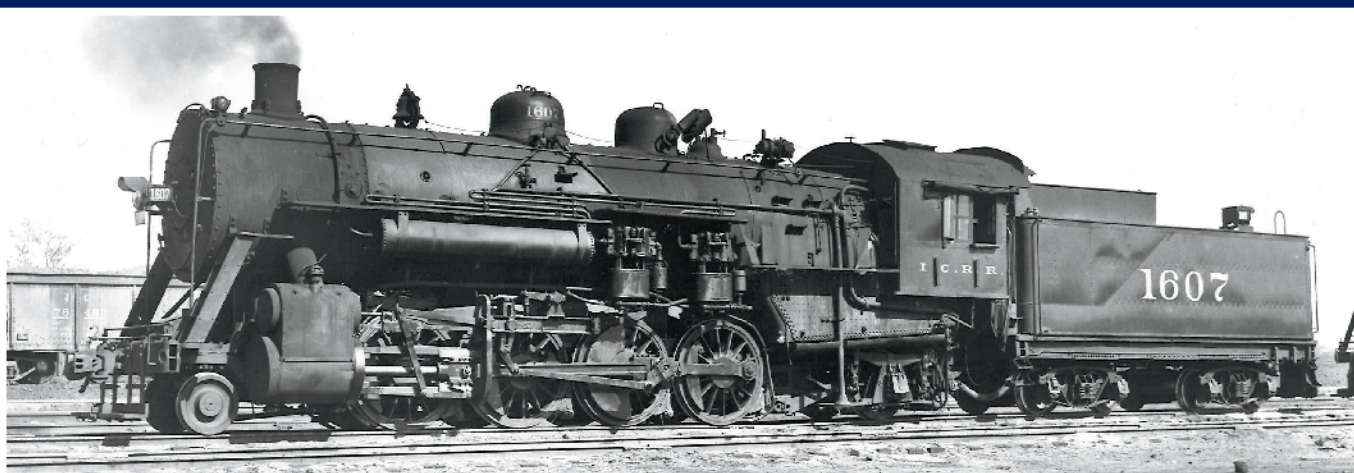


EJ&E // Elgin, Joliet & Eastern No. 747 heads an east-bound freight about 2 miles outside the railroad's Joliet, Ill., yard. Long associated with northwest Indiana's steel industry, the EJ&E was a Chicago by-pass. R. H. Braun photo



IC // Illinois Central 2-8-2 No. 1607 steams at Chicago in April 1948. The IC had more than 500 Mikados built by Alco, Baldwin, and Lima in addition to those built in its own shops.

J. Bowie photo, C. W. Witbeck collection



GN // A reprieve for Great Northern steam: 2-8-2 No. 3386 serves as a stationary boiler in Superior, Wis., in November 1959 to heat iron-ore hoppers for unloading. Note the main rods are removed. It's one of 22 class 0-7 locomotives built by the GN between 1929 and 1931 from retired M-2 class 2-6-8-0 articulateds.

Philip A. Weibler photo



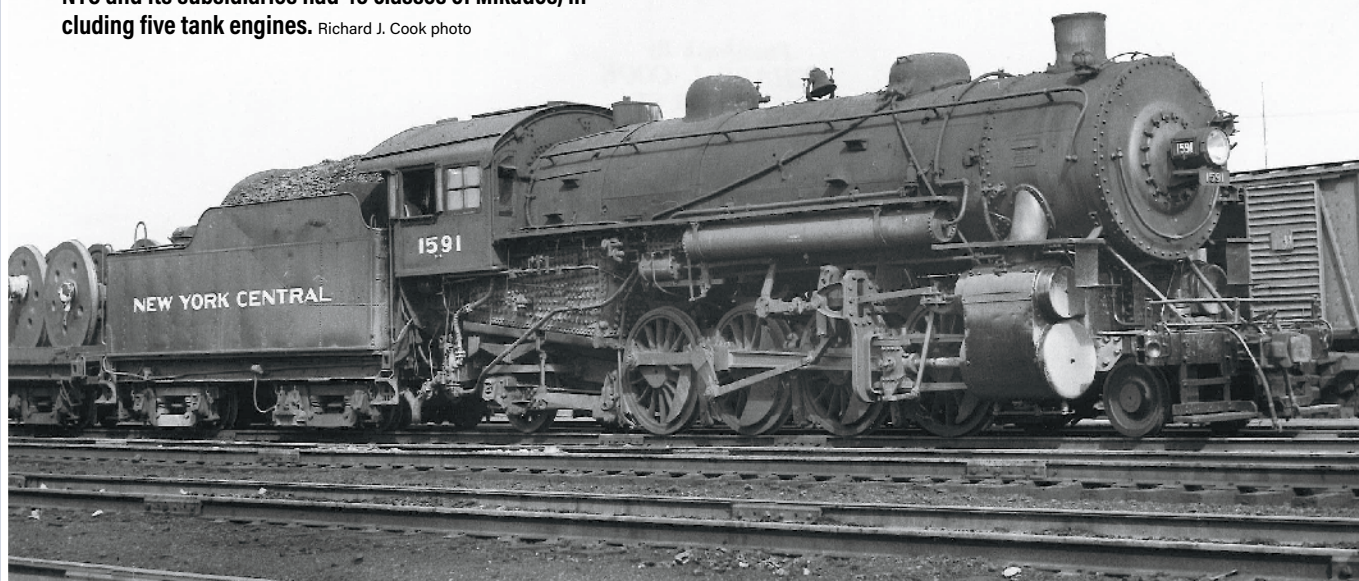
B&O // Baltimore & Ohio No. 4592 takes water at Buckhannon, W.Va., on July 1, 1957. The railroad had 100 2-8-2s in the Q-3 class, Nos. 4500-4599, built by Baldwin in 1918 and retired by 1959. Jim Shaughnessy photo

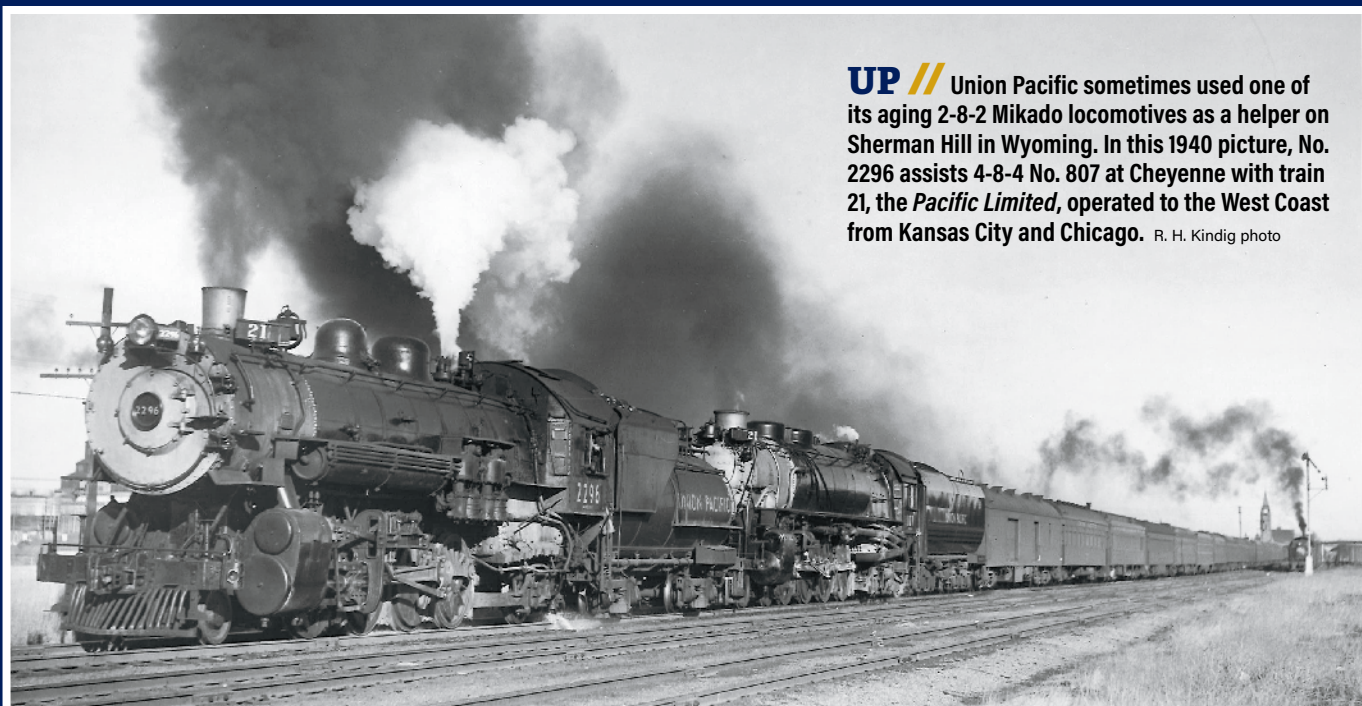


SP // Southern Pacific 2-8-2 No. 3249 is southbound at Thornbrook, Calif., with train 327 on Dec. 30, 1951. The engine was built by Baldwin in 1913 and was the highest numbered of the railroad's Mk-5 class. Fred H. Matthews Jr. photo



NYC // New York Central H-5 class 2-8-2 No. 1591 stands at Collinwood Yard on the east side of Cleveland. NYC and its subsidiaries had 45 classes of Mikados, including five tank engines. Richard J. Cook photo





UP // Union Pacific sometimes used one of its aging 2-8-2 Mikado locomotives as a helper on Sherman Hill in Wyoming. In this 1940 picture, No. 2296 assists 4-8-4 No. 807 at Cheyenne with train 21, the *Pacific Limited*, operated to the West Coast from Kansas City and Chicago. R. H. Kindig photo



CP // You know it's hot in the cab when it's December in Saskatchewan and the fireman has his head out of the window at speed. On this 1956 day he has Canadian Pacific 2-8-2 No. 5128 steaming optimally as it hustles an extra west between Moosejaw and Swift Current.

Robert Hale photo



C&IM // Despite its limited mainline mileage, Chicago & Illinois Midland had solid steam power to haul coal. On September 7, 1951 however, there's nary a hopper on the local behind 2-8-2 No. 552 as it starts downhill toward Oakford, Ill. It will turn at Havana then head back to the shops at Taylorville. Dave Lewis photo

Preserved Great Lakes EMDs

Lake Superior Railroad Museum in Duluth holds a significant collection of EMD products from the upper Midwest

BY CHRIS GUSS // PHOTOS BY THE AUTHOR

Locomotive preservation is prevalent across the country. The equipment at museums and other venues are a window to the past that showcases the cutting-edge technology and innovation the industry had to offer at the time. Many museums try to align their collections to reflect the locomotive types used in the region or from the railroads that operated near their facilities. Many units preserved are simply representative locomotives of that model, while some museums are lucky enough to obtain significant locomotives such as the first or last built, the only locomotive model rostered by a railroad, or the only one left in existence.

Located along the shore of Lake Superior, Lake Superior Railroad Museum in Duluth, Minn., has a unique mix of EMD locomotives that's evolved through the years to represent power used by the Class I and mining railroads in the Upper Midwest. The majority of its EMDs either operate or have operated in the past on the museum's 28-mile North Shore Scenic Railroad from Duluth north to Two Harbors.

The oldest EMDs in its collection are Soo Line SW1 No. 320 and Great Northern NW5 No. 192. The SW1 was built in late 1939 and was Soo Line's first diesel locomotive. GN owned 10 of the just 13

Soo Line 2500A, a onetime EMD FP7 demonstrator, pulls a charter across the St. Croix River near Osceola, Wis., while on loan to the Minnesota Transportation Museum.

NW5 road-switchers built by EMD in late 1946 and early 1947.

Soo Line FP7 No. 2500 is one of three covered wagons in the museum's collection. Built as demonstrator No. 2500A in 1949, Soo Line purchased it in 1950 and it was in service until 1986 when the Soo donated it to the museum. The second and third are Erie Mining F9A No. 4211 and F9B No. 4222, which were built in 1956 for the mining railroad to haul ore from Hoyt Lakes to Taconite Harbor in Minnesota. Retired in 2011, they were among the last covered wagons operating by their original owner.

Duluth, Missabe & Iron Range SD-M



SD45 400 and NW5 192 display the Great Northern's classic Omaha orange and Pullman green colors at a night photo shoot at the museum in September 2009.



Duluth, Missabe & Iron Range locomotives SD18 193 and SD-M 316 pull a short passenger consist in September 2017.

No. 193 is one of many DM&IR SD18s to be remanufactured by the railroad in the early 1990s. The unit was built by EMD in 1960 as Duluth, Missabe & Iron Range SD18 No. 186, one of only 54 SD18s built for domestic service, almost half of which were used by mining railroads in the upper Midwest.

Soo Line GP30 No. 700 was built in 1963 and was the class unit of 22 GP30s rostered by the railroad. The locomotive arrived in Duluth in 2001 and was restored by 2005 in its original as-delivered condition.

In 2007, Canadian National donated former Wisconsin Central SD45 No. 7495 to the museum. The locomotive was built at Northern Pacific No. 3617 in 1967 and is one of seven SD45s preserved to date. It was restored to operating condition by the museum last year after mechanical repairs, addition of NP appliances and repainting to its original scheme were completed.

Great Northern SD45 No. 400 resides at the Duluth museum, but isn't part of its permanent collection. The 3,600-hp locomotive is owned by the Great Northern Historical Society. It holds several distinctions: It was the first SD45 built by EMD in 1966 and was the only unit to carry the "Hustle Muscle" nickname on its long hood, its lettering being applied by Great Northern after delivery. It's on indefinite custodial loan to Lake Superior Railroad Museum and operates on excursions. Both GN No. 400 and NP No. 3617 are the only operable SD45s preserved in the U.S.

The museum's latest EMD acquisition is a former Northern Pacific GP9, built in 1956 as NP No. 245. The museum traded its DMIR SD-M No. 316 in 2019 for the high-nose locomotive that was in service at Dakota Quality Grain Corp. elevator in Parshall, N.D. The locomotive was one of NP's GP9s with a steam generator in the high short-hood. 📷



ILLINOIS RAILWAY MUSEUM — UNION



Just west of Chicago's west suburbs, the Illinois Railway Museum in Union has significant EMD holdings, including Burlington Route *Nebraska Zephyr* E5 9911 (top) and this sign from the company's LaGrange headquarters and manufacturing campus.

NATIONAL RAILROAD MUSEUM — GREEN BAY



The National Railroad Museum in Green Bay is home to an early Minneapolis & St. Louis NW1 switcher (top), built in the late 1930s, and one of three experimental Aerotrain streamliners that ended up in commuter service on the Rock Island (above). Four photos, Brian M. Schmidt

Fort Collins' Birney cars

Famous as the last U.S. city to operate Birney cars in revenue service, the Fort Collins, Colo., streetcar system had its start in late 1907 with operation under the Denver & Interurban banner, a subsidiary of the Colorado & Southern. Car operation focused on the downtown intersection of Mountain and College (below right), where cars on the three routes met throughout the day. The city acquired the system in 1919 and economized operations by purchasing four Birneys, numbers 20-23, from American Car. One additional car came new from Cincinnati, and a number of secondhand cars also were acquired. The system maintained a 5-cent fare throughout the municipal ownership, but the postwar economic boom finally did the streetcars in, and car 22 made the last run on June 30, 1951. The Midwest Chapter of the NRHS acquired car 26 in 1953, and on Aug. 16, 1953, (below left) it operated over the lines of the Detroit Department of Street Railways to commemorate 90 years of streetcar operation in the Motor City. The Birney ran at the head of a 17-car parade, that included 15 Peter Witts and one PCC. Car 26 later went to the Henry Ford Museum.

Right, T. Hefner; below right, George Krambles; below, J. W. Vigrass;
all: Krambles-Peterson Archive collection







The customer is always right

A different side to EMD's customer relations

At the height of dieselization circa 1950, the volume of orders pouring into Electro-Motive Division was sufficient to require three production locations: La Grange, by far the largest; Plant 2, a former Pullman Co. facility in South Chicago; and Plant 3, the ex-Cleveland Engine Corp. facility in Cleveland, Ohio.

However, by 1953, sales had decreased to the point the Cleveland plant was winding down production and would close in 1954. Switcher and GP7 construction previously allocated to Plant 3 was being absorbed at La Grange.

Particularly during this transition period, there were bound to be occasional "misunderstandings" between supplier and customer.

Like many railroads in 1953, the Boston & Maine Railroad was dieselizing as fast as finances would permit. That year the board of directors authorized the purchase of six GP7s from EMD. A Letter of Intent allowed the GP7s to be assigned a production slot in La Grange's schedule while the Equipment Trust funding was negotiated between the B&M and Boston-area banks.

It was admittedly a small order, but between the years 1950 and 1952 the B&M had purchased 17 GP7s, 14 SW1s, seven SW7s, eight SW8s, and 12 SW9s, as well as 35 units from Alco.

Several months later, as the units neared completion on the erecting floor, B&M Mechanical Department Superin-

tendent Ernie Bloss sent Assistant Engineer of Tests Kenneth F. McCall to EMD to inspect and formally accept the locomotives for delivery. This pre-acceptance inspection was, and continues to be, standard practice dating back to the earliest years of contract locomotive production.

Upon inspection of the first one or two units, McCall made it clear to his EMD production counterpart that certain specified items were not present on the locomotives and needed to be installed before acceptance was possible. The EMD supervisor's response was, "Just take 'em the way they are or we'll sell to the next customer."

That was not a wise statement to make to Ken McCall, whose Puritan morals and

Boston & Maine motive power lined up at North Station in Boston includes a 4-6-2 departing, Minute Man-painted GP7s, Budd RDCs, and an RS3 on July 1, 1955.

George Krambles, Krambles-Peterson Archive



black-or-white view of the world were known, respected, and sometimes feared by his B&M staff associates.

A shall we say "boisterous" vocal exchange occurred, apparently on the production floor beside the locomotives, which culminated in McCall stating, "You do that [meaning sell the GP7s elsewhere]. I'm not taking them as is!" Then he walked out.

McCall departed EMD, contacted B&M headquarters and left Chicago late that day on New York Central's Boston-bound *New England States*.

Approaching Buffalo near midnight, McCall was "gently awakened by the Pullman conductor requesting I get dressed promptly, detrain at Buffalo, and board the next westbound train for Chicago." The conductor continued: "Your westbound accommodations have already been booked, and, I am to inform you that EMD has committed to meet its contract obligations."

One might suspect that the Bell

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SCENIC CASS RAILROAD



EMD GP7 No. 1568 poses for its builders photo at EMD's Plant 3 in Cleveland, Ohio, in February 1952. B&M's initial GP7 orders, 1555-61 (1950) and 1562-71 (1952) were built at Plant 3. It would close in 1954 with EMD shifting production to La Grange. EMD, Boston & Maine Railroad Historical Society collection



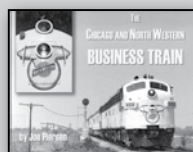
Recently shopped and painted No. 1563 leads Connecticut River job JS-2 (White River Junction, Vt.-Springfield, Mass.) into East Deerfield (Mass.) Yard. It's late March 1975. Two photos, Carl R. Byron

System, the sole provider of long distance U.S. telephone service at that time, had a very profitable afternoon on its trunk line between La Grange and the B&M's offices at 150 Causeway Street in Boston. And long-distance phone service in the 1950s was very expensive. Likewise, it's safe to presume that Ken McCall slept much better westbound than eastbound that evening.

The record implies there was payback. B&M's next order for road switchers went to Alco for 13 RS3s in 1954, followed by two more RS3s in 1955. In fact, EMD did not receive a road locomotive order from B&M until new railroad management was installed in January 1956. Even then it was for the conversion of 48 tired FT locomotives into 50 new GP9s "containing some rebuilt and/or remanufactured parts," to be delivered between October 1956 through 1957. EMD accepted the order with about a 30% credit off list price.

That such as the above occurrence would be documented in personal correspondence is rare. Generally, these sagas are swept under the corporate rug and quickly forgotten. However, the above excerpted comments are contained in several circa-1960 personal letters between McCall and noted postwar steam locomotive designer Dr. Adolph Giesl Gieslengen, of Vienna, Austria. The two apparently were longtime pen pals if not personal friends. The correspondence was discovered by your author in the Boston & Maine Railroad Historical Society archives.

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What makes this event even more unusual is that the late Max Ephraim, EMD's chief engineer in the 1960s and '70s, also recalled that day. In 1953, Ephraim was the GP7 project engineer, having begun design under EMD's legendary Chief Engineer Richard Dilworth. Ephraim subsequently continued in that capacity to oversee production when Eugene Kettering replaced Dilworth upon the latter's retirement. Ephraim later wrote this to the author: "Some of our [EMD] people were afraid when he [McCall] showed up, but I had admiration for a man who did his job well. As a matter of fact, I said at the time we should hire him to help us make a better product!"

It must have been quite a show!

There also is anecdotal evidence that the above was not a unique occurrence. Something might have occurred between the Santa Fe and EMD in early-to-mid-1948. Suffice it to say the EMD sales manager responsible for the Santa Fe account was not likely pleased when ATSF ordered 12 Alco PA/PB units rather than 16 EMD F3s for late 1948 delivery.

No matter how big an organization is, it ignores "The Customer is Always Right" axiom at its peril. — *Carl R. Byron*



Early spring 1976 finds GP7 1567 leading southbound freight JS-2 away from Deerfield Junction, Mass., after completing its work at East Deerfield Yard.

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	RUNS	HITS	ERRORS
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Remarks _____

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We hope your favorite team wins

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NEW YORK CENTRAL SYSTEM

A form used to convey baseball scores to the *20th Century Limited*. Charles H. Geletzke Jr.

Getting the score before transistor radios

Learning about an extra service on the *20th Century Limited*

In addition to being a retired rail-roader, a woodworker, a railfan, and railroad modeler, I am also a fan of Major League Baseball. Can you imagine my surprise when several years ago, while attending a baseball card show with my boys, I found and purchased the card shown here.

Just take a look at it and imagine how it may have been used. Picture yourself as a baseball fan traveling westbound or eastbound over the Water Level Route of the New York Central Railroad, perhaps on business, during a World Series game between the Brooklyn Dodgers and the New York Yankees. You are riding in a coach or parlor car and during that era (the Dodgers and Yankees played each other six times between 1947 and 1956), you are totally isolated from the game, unable to listen to a radio broadcast. You cannot even keep up on the score!

Well, guess what? New York Central's passenger traffic department was concerned about you. Judging from the circa 1947 E-unit design you see here, I am guessing this particular form was probably first used during the 1949 World Series.

Imagine you were riding in a parlor

car on train 51, the Empire State Express, from Grand Central Terminal in New York to Michigan Central Station in Detroit. Train 51 was scheduled to depart GCT at 8 a.m. and arrive in the Motor City at 9:15 p.m. This means that between 1 p.m. — the approximate time of the first pitch in that era of afternoon games — and, say, 5:04 p.m., you would have been traveling westward between Rome, N.Y., and a point in the vicinity of Welland or Waterford, Ontario.

Again, it would all depend upon the date and train you chose to ride, and it definitely would not have applied aboard either of Central's *20th Century Limiteds*, which departed after game time from both the Big Apple and the Windy City. But can't you just picture a Pullman conductor or porter or perhaps a NYC conductor or brakeman, their blue uniforms adorned with bright brass or silver buttons, strolling through the Pullmans, parlor cars, or coaches informing the passengers of the game's score and details?

Listen to what the Pullman conductor might have said at the end of Game 5 on Oct. 5, 1949: "After a one-out single and a walk, Jackie Robinson's sacri-

Next Issue



Remembering the *Super Continental*

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Razorback Short Lines, 1972

Trekking from Birmingham to Arkansas to photograph and ride colorful shortline and industrial railroads in the Ozarks

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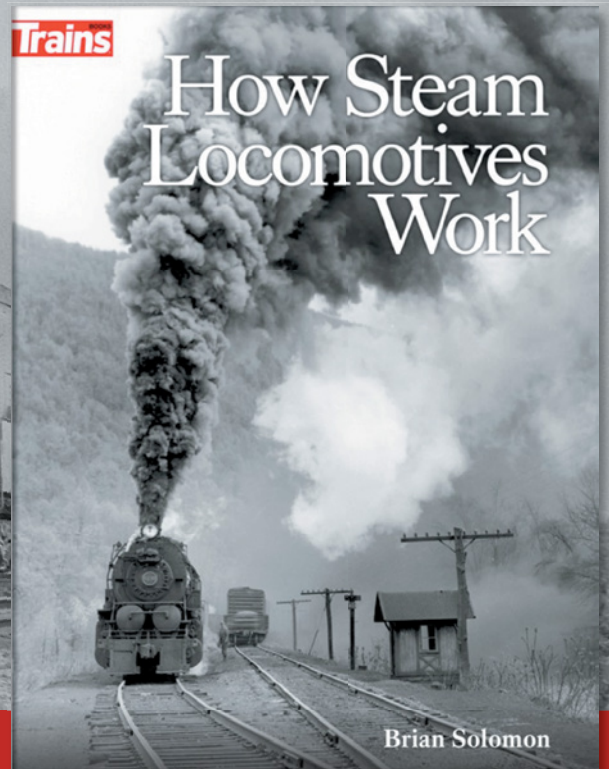


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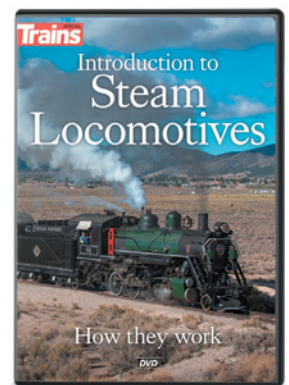


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fice fly made it 10-3 Yankees! Then after another walk, Gil Hodge's three-run home run cut their lead to 10-6. But wait, Joe Page held the Dodgers scoreless for the rest of the game to give the Yankees the title! As a side note, history was made in the ninth inning when the Ebbets Field lights were turned on, making this the first time a World Series game finished under artificial light!"

Looking at the card brings various questions to mind. I wonder if the NYC had an employee actually watch and monitor the game. How do you suppose they distributed the action seen on the scoreboard around the system? Did it go out via teletype? Do you suppose all this information was sent systemwide, or just around the metropolitan New York City area? Do you think the information was initially sent to each dispatching office? Which trains actually received the details of each game?

Certainly the passengers aboard the

high-priority varnish running along the Hudson River must have been informed by the train's crew. But what if you were riding NYC train 647 over the secondary "Old Road" through southern Michigan between Toledo and Elkhart, Ind. Do you

think they received the score of each inning? I really wonder.

Another item of consideration: how would you guess this information was delivered to each train? If the train was stopped at a station, the station agent probably could have handed the completed form to a crew member. However,

if the train were traveling over the road, between stations where it was not scheduled to stop, do you think the dispatcher would have arranged for this "press kit" to be delivered to the train? If so, it would have had to have been hooped up by a telegraph operator or station agent. To do so would have required displaying a yellow train-order signal.

It would have had to have been hooped up by a telegraph operator or station agent. To do so would have required displaying a yellow train-order signal.

And displaying a yellow train-order signal indication would have meant there would have had to have been a clearance form attached to the baseball card, stating at a minimum: "ORDERS nil and MESSAGE(s) one." If delivered in this manner, not only the conductor but additionally the crew on the head end would have been required to receive a copy, with a third copy going to the agent/operator.

Lastly, I am curious as to how much of the form would have been completed. Being a serious baseball fan, I must confess I was not familiar with the term "batteries." My daughter, also a baseball fan, just informed me the expression refers to the combination of each team's pitcher and catcher.

So there you have it, another aspect of railroading during the glory years that is probably new to you.

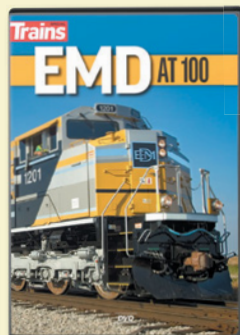
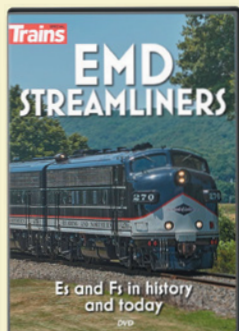
If only we could communicate with a retired NYC employee who had been involved with this transmission...do you suppose there are any left?

And lastly, do you think that any other railroads did something similar?

Play ball! — Charles H. Geletzke Jr.

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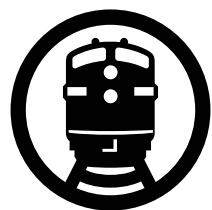


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Counting noses

Recounting a family train trip to Abilene on the eve of Amtrak

Spring 1971 was hectic. Federal legislation called for the May 1 startup of the National Railroad Passenger Corp. — soon branded Amtrak — and just about every passenger-hauling railroad in the country had posted discontinuance notices on almost all their passenger trains.

I was working for the Rock Island in Kansas City, Kan., at the time and figured it was time to ride some of the interesting trains in the area. The list included Kansas City Southern, Frisco, Burlington Northern, and the Union Pacific.

The Kansas City Star had an article about “Old Abilene Town” in Abilene, Kan., touting activities along the replica Main Street that included gun-fighting reenactments.

This sounded like a good family outing. (The Can-can dancers at the Alamo Saloon didn’t start until May). A study of the Official Guide showed we could make a (long) day trip from our home in Mission, Kan., riding Union Pacific trains 117 and 118 there and back. It would be a bit convoluted, as these were mixed trains. It didn’t say so in the guide, but the departure was from Kansas City, Kan., from Armstrong Yard down in the “bottoms,” not from Kansas City Union Station. Rath-



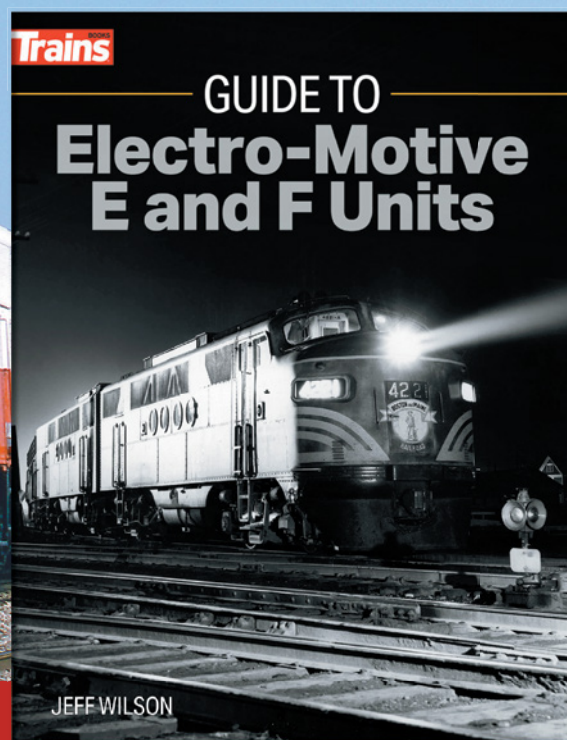
The Weibler family is ready to board train 118 at Abilene, at top. Philip A. Weibler **Above, Mary Rachel rides with Dad while he photographs 117 arriving at Lawrence.** Joe Weibler

er than trying to get the family down there for an 8 a.m. departure, I figured it would make sense to go west to Lawrence and catch the train at 9:03 a.m.

The depot in Lawrence was right in town in the middle of a sweeping curve. We were there in time to see 117 arrive in grand style — three E units, two SDs, a streamlined baggage car and coach, and a string of boxcars. The power was put to good use. Even with stops at Topeka, Manhattan, and Junction City, 117 made the 124 miles to Abilene in two hours and 36 minutes, arriving at 11:39 a.m. The timetable showed 117 going on to Denver, with 118 returning with a similar daylight schedule (but still after dark in K.C.).

After a fun afternoon in Old Abilene Town it was time to hike back to the depot to catch 118 at 7:10 p.m. to return to Lawrence. Time to count noses. There’s Mike, Jim, my patient wife Barb, Kateri, Joe, and Rob. But where is the littlest one? Joe had the answer: Mary Rachel had spent most of the day on my back in the Hike-A-Poose! — *Philip A. Weibler*

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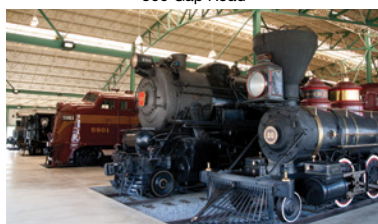
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The train departs Tuesday through Saturday evening at 5:30 pm year round. The train features a choice of a queen bed in our sleeper deluxe suites or a full size bed in our 1914 Pullman Private Car. Enjoy cocktails in the lounge and then move to the diner for a scrumptious 4-course chef prepared meal from our onboard kitchen. When the train returns to the station view the starlit sky while trading railroad tales with other passengers around our gas fire on the patio. Wake up to a hot breakfast buffet in the diner. See the world famous Mark Twain Zephyr at Trego Depot!

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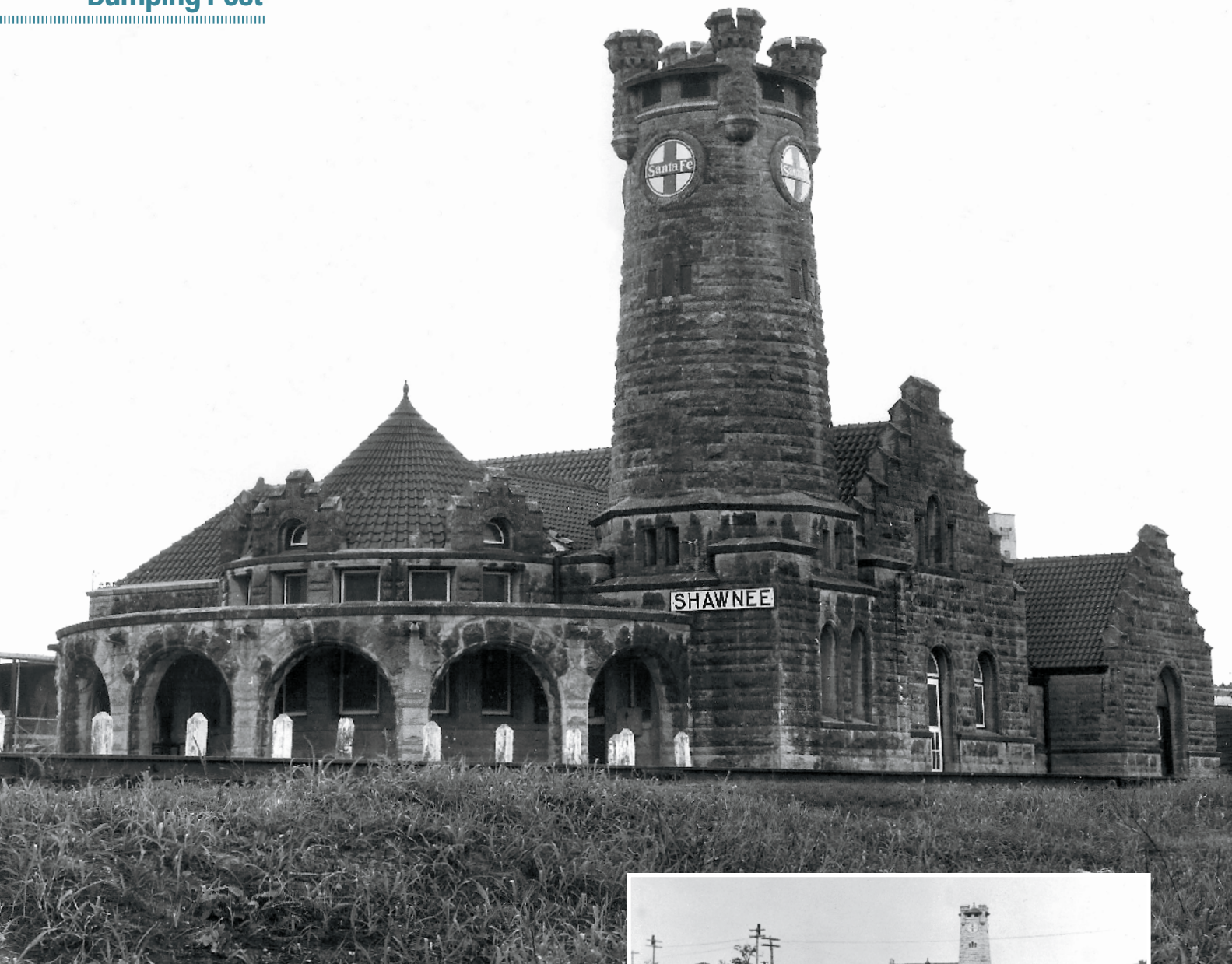
ONTARIO St. Thomas

ELGIN COUNTY RAILWAY MUSEUM

225 Wellington Street

Located in the old MCRR shops in downtown St. Thomas, the Elgin County Railway Museum gives visitors the opportunity to explore local rail history, get up close with locomotives in the Rolling Stock Gallery, and see the historic rail yards from a bird's eye view through the History in Motion Room. Visit in-person or browse the collection at ecrm.pastperfectonline.com

519-637-6284



Fit for a king

Santa Fe's Shawnee, Okla. station was one of a kind on the system. Built in 1904 — three years before statehood — it showed the town's promise as it competed with Oklahoma City 40 miles to the west.

Designed by Santa Fe architect Charles Wattlesay in the Richardson-Romanesque style, the sandstone station sports a 60-foot tower that was reportedly to house a clock. It never did.

Viewed from another angle, the building's red tile roof has the look of a Spanish mission.

As beautiful as the station was, Shawnee was on a secondary line while Oklahoma City was astride the Santa Fe's main to Galveston, Texas. The latter raced ahead in terms of growth, while the former became the gateway to the oil patch.

Secondary trains originated and terminated at Shawnee,



plying what was in mid-century a second main line between Arkansas City, Kan., and Pauls Valley, Okla.

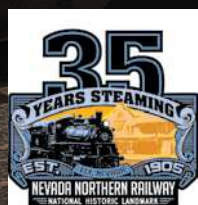
By the 1940s the passenger trains had become motor car service. Mixed trains handled the few passengers calling on and departing from the city in the 1950s. The curtain came down in the early '60s.

It's a grand edifice some have also compared to a lighthouse. It has been restored and today functions as a museum. 

Photos: top, John McCall; inset, Santa Fe

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